ORDER NO. MOD86070670C2

Service Manual

Microwave Oven

NE-972, NE-973

Specifications

Power Source :	220 V AC Single Phase, 50 Hz
Power Requirement :	2.8 kW (12.5 A)·····Maximum Required Power (Microwave & Grill Heater) (Convection Heater & Grill Heater) 1.2 kW (5.9 A)·····Microwave 1.25 kW·····Convection Heater 1.55 kW·····Grill Heater
Output :	600 W·····Full Microwave Power
Oscillation Frequency :	2,450 MHz
Timer :	99 min. 99 sec./9 hr. 99 min.
Outside Dimensions :	558 mm (W) × 495 mm (D) × 386 mm (H)
Oven Cavity Dimensions :	355 mm (W) × 355 mm (D) × 241 mm (H)
Weight :	31.5 kg
Specifications subject to change without notice.	

Panasonic

This service manual covers products for following markets.
When troubleshooting or replacing parts, please refer to the country identifications shown below for your applicable product specification.
EPG····· For Continental Europe
SPG····· For Scandinavian Countries
UPG····· For France

WARNING

This products should be serviced only by trained, qualified personnel. As for the oven lamp, the users can replace it by themselves.

VARNING

Denna apparat skall repareras endast av härför kvalificerad personal. Ugnslampan kan dock utbytas av användaren.

VAROITUS

Laitetta saa huoltaa ainoastaan tehtävään koulutettu, ammattitaitoinen huoltomies. Uunin lampun saa käyttäjä vaihtta itse.

ADVARSEL

Reparasjoner må kun utføres av kvalifisert personell. Lampen for ovnsbelysning kan byttes av bruker.

ADVARSEL

Disse produkter må kun repareres af kvalificerede teknikere med specialuddannelse. Pæren i ovnen kan brugerne dog selv udskifte.

ATTENTION
RAYONNEMENT PAR MICRO-ONDES

LES PERSONNES NE DOIVENT PAS ÊTRE EXPOSÉES A L'ÉNERGIE PAR MICRO-ONDES QUI PEUT PAYONNER DU MAGNÉTRON OU D'UN AUTRE DISPOSITIF GÉNÉRATEUR DE MICRO-ONDES EN CAS D'UTILISATION OU DE CONNEXION INCORRECTES. TOUTES LES CONNEXIONS A MICRO-ONDES D'ENTRÉE ET DE SORTIE. LES GUIDES D'ONDES. FLASQUES ET JOINTS DOIVENT ÊTRE SÛRS. NE JAMAIS FAIRE FONCTIONNER LE GÉNÉRATEUR SANS UNE CHARGE PRÉVUE POUR ABSORBER L'ENERGIE PAR MICRO-ONDES. NE JAMAIS REGARDER A L'INTÉRIEUR D'UN GUIDE D'ONDES OUVERT OU UNE ANTENNE PENDANT QUE LE GÉNÉRATEUR EST EN FONCTION.

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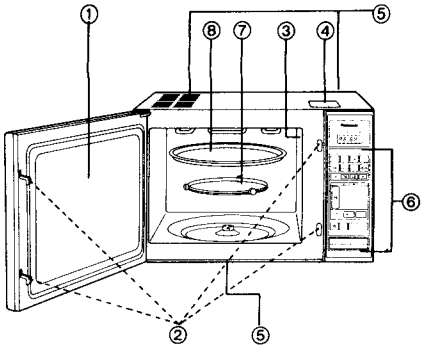
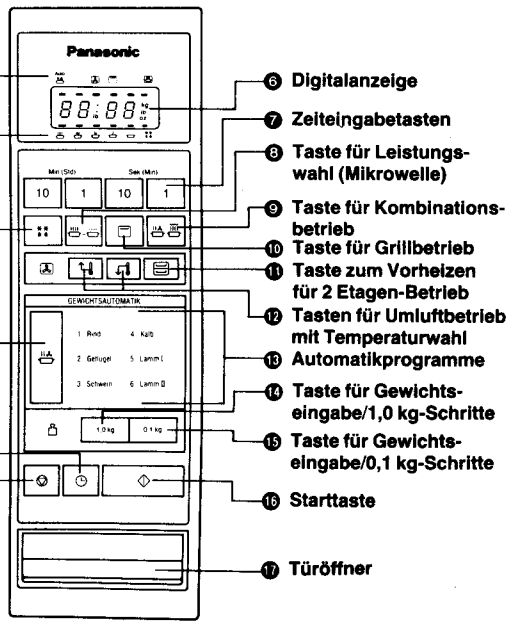
Schematische Ansicht



① **Sichtfenster**
② **Türsicherheitsverriegelungen**
Verhindern den Betrieb des Gerätes, wenn die Tür nicht ordnungsgemäß geschlossen ist.
③ **Garraumbeleuchtung**
Leuchtet wenn die Tür geöffnet wird und während des Garvorgangs.
④ **Garraumlampenabdeckung**
Ermöglicht das Auswechsein der Garraumglühbirne.
⑤ **Lüftungsöffnungen**
Die Lüftungsöffnungen dürfen auf keinen Fall abgedeckt werden.
⑥ **Bedienungsfeld**
Siehe unten.
⑦ **Rollenring**
Muß vor dem Garvorgang in das Gerät eingesetzt werden.
⑧ **Glaskeramik-Drehteller**
Muß vor Betrieb in das Gerät auf den Rollenring gesetzt werden.

Bedienungsfeld



❶ **Kontrollampen**
❷ **Auftautaste**
❸ **Taste für Gewichtsautomatik "Kombination"**
❹ **Uhrtaste**
❺ **Stop-/Löschtaste**
❻ **Digitalanzeige**
❼ **Zeiteingabetasten**
❽ **Taste für Leistungswahl (Mikrowelle)**
❾ **Taste für Kombinationsbetrieb**
❿ **Taste für Grillbetrieb**
⓫ **Taste zum Vorheizen für 2 Etagen-Betrieb**
⓬ **Tasten für Umluftbetrieb mit Temperaturwahl**
⓭ **Automatikprogramme**
⓮ **Taste für Gewichtseingabe/1,0 kg-Schritte**
⓯ **Taste für Gewichtseingabe/0,1 kg-Schritte**
⓰ **Starttaste**
⓱ **Türöffner**

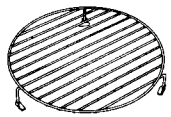
Zubehör

Zubehör und Einsatzmöglichkeiten

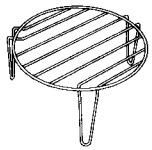
Fettpfanne
...zum Auffangen von Fleischsaft und als Kuchenblech einzusetzen.

Spritzblech
...wird nur in Verbindung mit der Fettpfanne eingesetzt.

Glaskeramik-Drehteller
...wird nur zum Reinigen aus dem Gerät genommen.

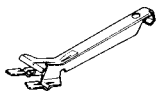


Niedriger Rost
...für Umluftbetrieb und zum Grillen.



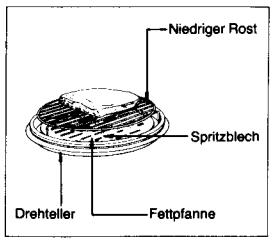
Hoher Rost
...zum Grillen und für das Backen auf 2 Etagen.

Kuchenblech
...vorzugsweise für die Zubereitung von Backwerk geeignet.

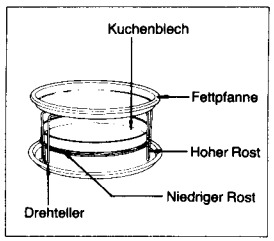


Griff
...zum sicheren Entnehmen des Zubehörs.

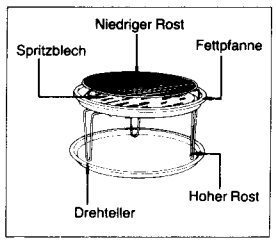
Beispiele für Einsatzmöglichkeiten:



Umluft und Umluft mit Mikrowelle



Umluft 2-Etagen-Betrieb

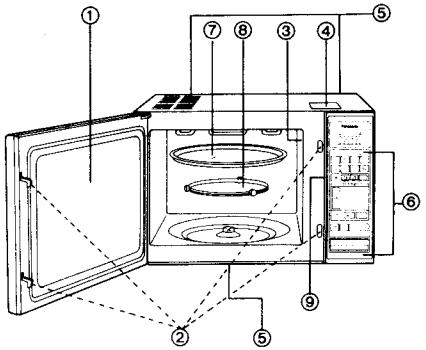


Grill

Anmerkung:
Weitere Tips und Hinweise finden Sie im beiliegenden Kochbuch.

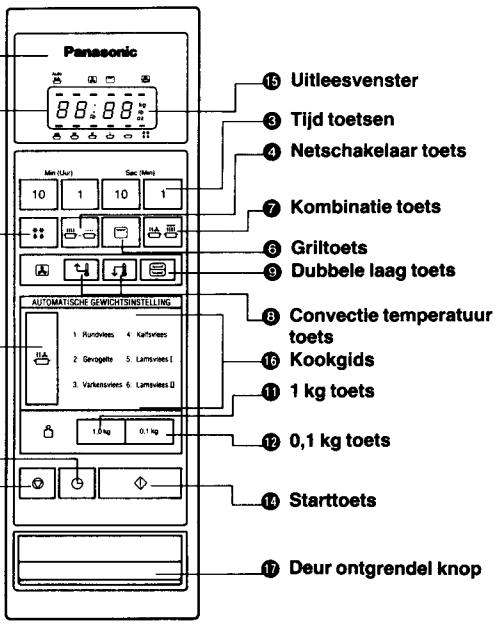
— 8 — ← Page of Operating Instructions → — 9 —

Beschrijving



① **Doorkijkvenster**
② **Veiligheidsscharnieren**
Voordat de kookfunktie an beginnen, moet de ovendeur stevig dicht zijn.
③ **Ovenlamp**
Deze gaat branden zodra de ovendeur wordt geopend en tijdens het koken.
④ **Afdekplaatje van de ovenlamp**
Stelt U in staat om de ovenlamp te vervangen.
⑤ **Ventilatie openingen**
Blokkeer deze nooit tijdens het koken.
⑥ **Bedieningspaneel**
Zie hieronder.
⑦ **Keramische plaat**
Moet tijdens het koken altijd in de oven zijn.
⑧ **Loopring**
Moet tijdens het koken altijd in de oven zijn.
⑨ **Loopring**
Moet ook tijdens het koken in de oven zijn.

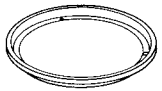
Bedieningspaneel



❶ **Regelpaneel met automatische telfunkties**
❷ **Kloktoets**
❸ **Tijd toetsen**
❹ **Netschakelaar toets**
❺ **Cyclische ontdooitoets**
❻ **Griltoets**
❼ **Kombinatie toets**
❽ **Convectie temperatuur toets**
❾ **Dubbele laag toets**
❿ **Automatische gewichtkombinatie toets**
⓫ **1 kg toets**
⓬ **0,1 kg toets**
⓭ **Stop/wistoets**
⓮ **Starttoets**
⓯ **Uitleesvenster**
⓰ **Kookgids**
⓱ **Deur ontgrendel knop**

Toebehoren

Toebehoren en hun gebruik



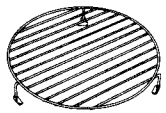
Druipschaal-grilpan
(ANE0603Z70BP)

Spatbeschermer
(ANE0648Z70BP)

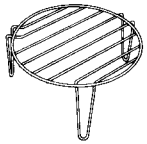
Spatbeschermer:
In kombinatie met de druipschaal helpt de spatbeschermer voorkomen dat voedselspatten rondvliegen.

Keramische schaal

Keramische schaal:
De oven mag niet zonder de keramische schaal worden gebruikt.

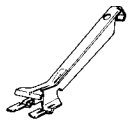


Laag rekje
(ANE0602Z70BP)



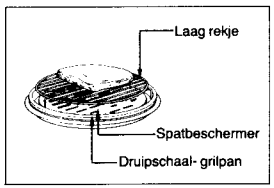
Hoog rekje
(ANE0641Z70BP)

Bakschaal
(ANE0709Z70BP)

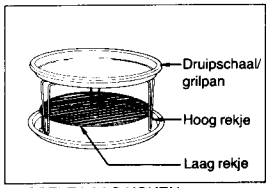


Handgreep
(ANE0604-F20)

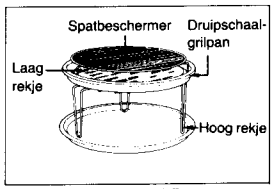
De toebehoren hebben de volgende aan te bevelen gebruiksmogelijkheden:



CONVECTIE/
CONVECTIE KOMBINATIE

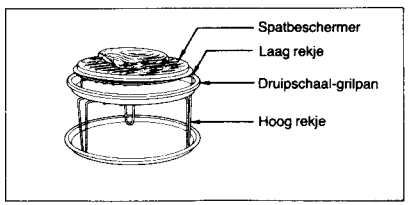


DUBBELE LAAG KOKEN

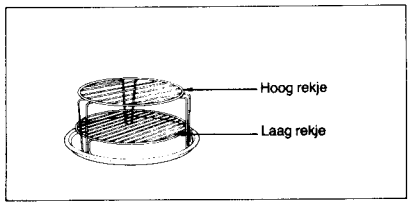


GRIL/GRILKOMBINATIE

Gebruik nooit de volgende kombinaties van toebehoren:

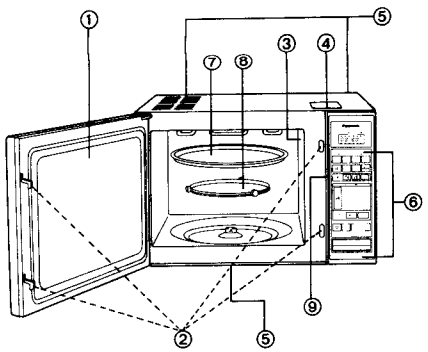


Gebruik de volgende onderdelen niet behalve bij het convectiekoken:



Nadere aanwijzingen worden verstrekt in de handleiding van uw kookboek.

Présentation générale



① **Fenêtre du four**

② **Système de verrouillage de la porte**
La porte doit être verrouillée pour que la fonction cuisson puisse commencer.

③ **Lampe**
Cette lampe s'allume lorsqu'on ouvre la porte, ou pendant la cuisson.

④ **Trappe d'accès à la lampe**
Cette trappe permet d'avoir accès à la lampe, pour remplacer l'ampoule.

⑤ **Ouies de ventilation**
Ne jamais obstruer ces ouies de ventilation pendant la cuisson.

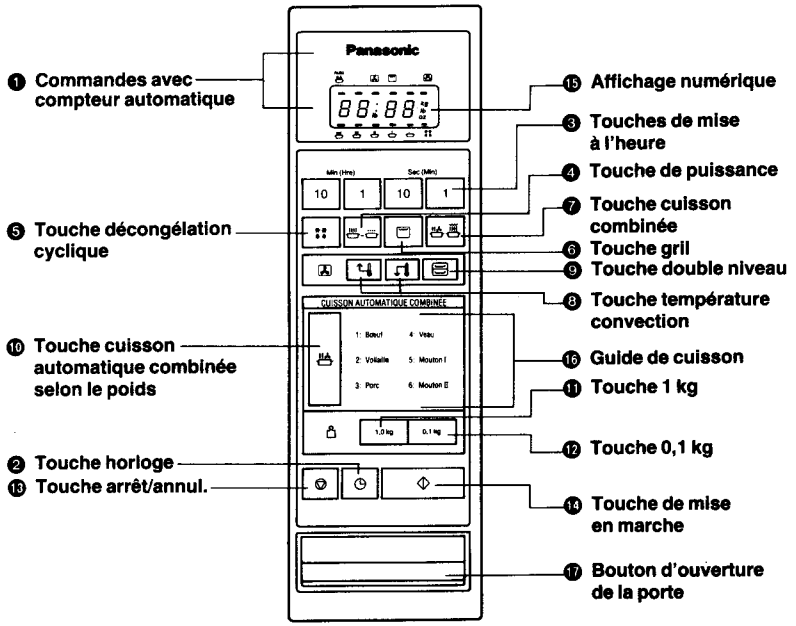
⑥ **Tableau de commande**
Voir ci-dessous

⑦ **Plateau en céramique**
Placer le plateau dans le four avant de mettre celui-ci en marche.

⑧ **Anneau rotatif**
Placer l'anneau rotatif dans le four avant de mettre celui-ci en marche.

⑨ **Plaque du fabricant**

Tableau de commande



❶ **Commandes avec compteur automatique**
❺ **Touche décongélation cyclique**
❿ **Touche cuisson automatique combinée selon le poids**
❷ **Touche horloge**
⓭ **Touche arrêt/annul.**
⓯ **Affichage numérique**
❸ **Touches de mise à l'heure**
❹ **Touche de puissance**
❼ **Touche cuisson combinée**
❻ **Touche gril**
❾ **Touche double niveau**
❽ **Touche température convection**
⓰ **Guide de cuisson**
⓫ **Touche 1 kg**
⓬ **Touche 0,1 kg**
⓮ **Touche de mise en marche**
⓱ **Bouton d'ouverture de la porte**

Accessoires et utilisation

Accessoires et utilisation

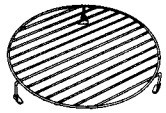
Lèche-frites
(ANE0603Z70BP)

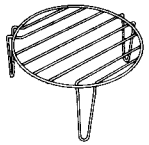
Plaque anti-projections
(ANE0648Z70BP)

Plaque anti-projections:
A utiliser avec le lèche-frite. La plaque antiprojections empêche les projections de graisse.

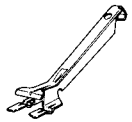
Plateau en céramique

Plateau en céramique:
Ne jamais utiliser le four sans le plateau en céramique.

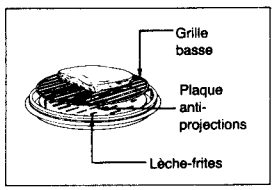

Grille basse
(ANE0602Z70BP)


Grille haute
(ANE0641Z70BP)

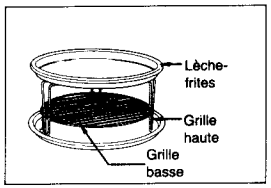
Plat en aluminium
(ANE0709Z70BP)


poignée
(ANE0604-F20)

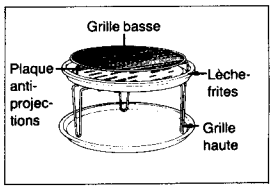
Ces accessoires doivent être utilisés de la façon suivante:



COMBINAISON CONVECTION/CONVECTION

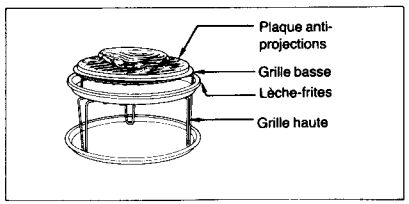


CUISSON A DOUBLE NIVEAU

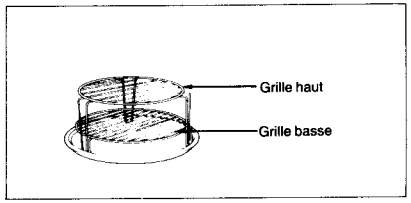


COMBINAISON GRIL/GRIL

Ne jamais utiliser les accessoires dans les combinaisons suivantes:

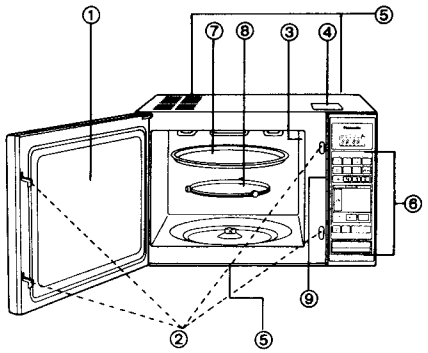


N'utiliser cette combinaison que dans le cas d'une cuisson convection.



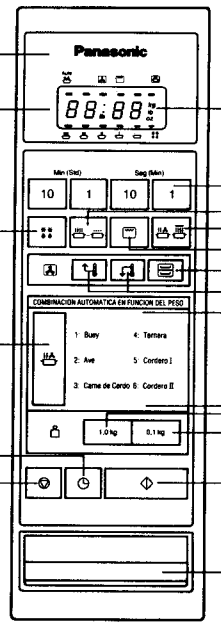
Pour plus de détails sur ce point, reportez vous à votre livre de recettes.

Esquema descriptivo



① **Ventana transparente del horno.**
② **Sistema de cierre de seguridad de la puerta.**
Antes de poner en marcha el horno, compruebe que la puerta esté herméticamente cerrada.
③ **Luz del horno**
La lámpara se enciende al abrir la puerta o cuando el horno está funcionando.
④ **Cubierta de la lámpara del horno**
Permite un fácil acceso, en caso de tener que cambiar la lámpara.
⑤ **Orificios de ventilación**
Estos orificios no deben obstruirse nunca mientras el horno está funcionando.
⑥ **Panel de control**
(véase la página)
⑦ **Bandeja de cerámica**
Debe colocarse en el horno antes de empezar cualquier tipo de cocción.
⑧ **Aro giratorio**
Debe colocarse en el horno antes de empezar cualquier tipo de cocción.
⑨ **Placa de características**

Panel de control



❶ **Mandos con función de cuenta automática**
❺ **Sensor de descongelación cíclica**
❿ **Sensor de combinación automática en función del peso**
❷ **Sensor del reloj**
⓭ **Sensor de paro/anulación**
⓯ **Indicador**
❸ **Sensores de tiempo**
❹ **Sensor de potencia**
❼ **Sensor de combinación**
❻ **Sensor de la parrilla**
❾ **Sensor de cocción en dos niveles**
❽ **Sensor de temperatura de convección**
⓰ **Guía de cocción**
⓫ **Sensor de 1 kilo**
⓬ **Sensor de 0,1 kg**
⓮ **Sensor de puesta en marcha**
⓱ **Sensor de abertura de la puerta**

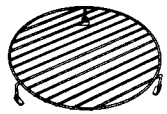
Accesorios

Accesorios y su utilización

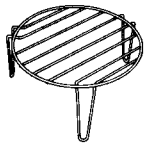
Grasera-parrilla
(ANE0603Z70BP)

Protección contra salpicaduras
(ANE0648Z70BP)
Se usa con la grasera, para evitar salpicaduras.

Bandeja de cerámica
El horno no debe funcionar sin esta bandeja.

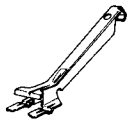


Soporte bajo
(ANE0602Z70BP)



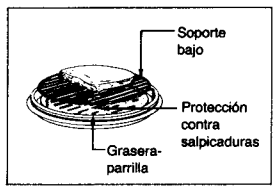
Soporte alto
(ANE0641Z70BP)

Bandeja de cocción
(ANE0709Z70BP)

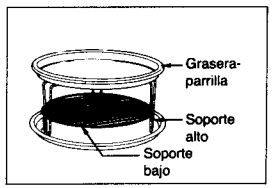


Mango sujetador
(ANE0604-F20)

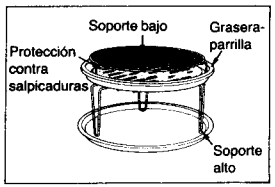
Recomendamos las siguientes utilizaciones:



CONVECCIÓN/
COMBINACIÓN POR CONVECCIÓN

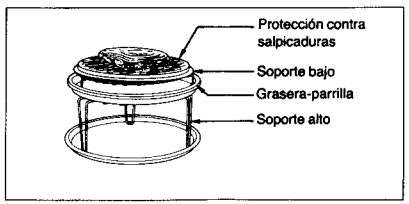


COCCIÓN A 2 NIVELES

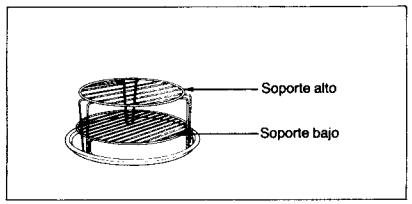


PARRILLA/
COMBINACIÓN PARRILLA

No use en ningún caso esta combinación de accesorios:

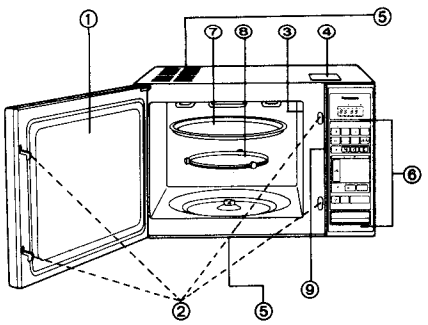


Sólo debe usarse esta combinación durante las cocciones por convección:



En el libro de cocina hallará más instrucciones al respecto.

Esquema Descritivo



① **Janela Transparente do Forno**

② **Sistema de Fechos de Segurança de Porta**
Antes de ligar o forno, verificar se a porta está herméticamente fechada.

③ **Luz do Forno**
A lampada estará acesa quando se abre a porta ou quando está, em funcionamento.

④ **Cobertura da Lampada do Forno**
Permite o acesso fácil à lampada em caso de substituição da mesma.

⑤ **Abertura de Ventilação do Forno**
Nunca obstruir estas aberturas enquanto o forno estiver em funcionamento.

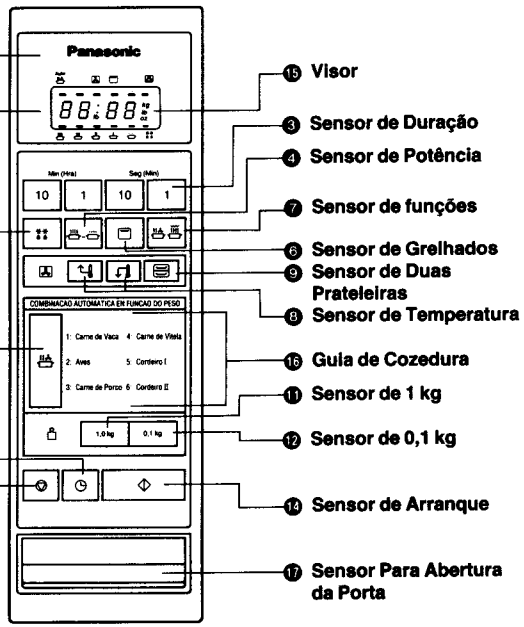
⑥ **Painel de Comandos**
Ver abaixo

⑦ **Prato de Vidro**
Deve ser colocado no forno antes de começar qualquer tipo de cozedura.

⑧ **Aro de Rodas**
Deve ser colocado no forno antes de começar qualquer tipo de cozedura.

⑨ **Chapa de Identificacão**

Painel de Comando



❶ Comandos com função de contagem automática

❺ Sensor de Descongelação

❿ Sensor de Peso Automático

❷ Sensor de Relógio

⓭ Sensor de Paragem/Cancelamento

⓯ Visor

❸ Sensor de Duração

❹ Sensor de Potência

❼ Sensor de funções

❻ Sensor de Grelhados

❾ Sensor de Duas Prateleiras

❽ Sensor de Temperatura

⓰ Guia de Cozedura

⓫ Sensor de 1 kg

⓬ Sensor de 0,1 kg

⓮ Sensor de Arranque

⓱ Sensor Para Abertura da Porta

Acessórios

Acessórios e sua Utilização

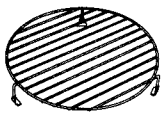
Prato p/Grelhados (ANE0603Z70BP)

Protecção (ANE0648Z70BP)

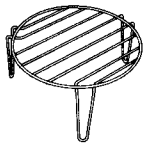
Prato Vidro

Proteccão:
Utilizar com o prato de Grelhados para evitar salpicos.

Prato Vidro:
Deve ser sempre utilizadq.

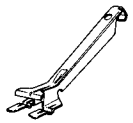


Grelha Inferior (ANE0602Z70BP)



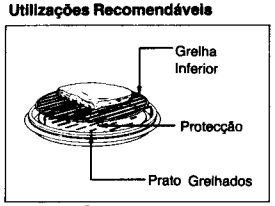
Grelha Superior (ANE0641Z70BP)

Tabuleiro Bolos (ANE0709Z70BP)

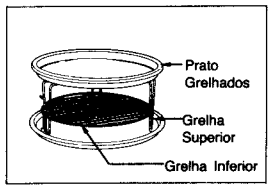


Pega (ANE0604-F20)

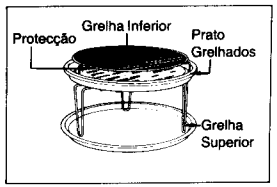
Utilizações Recomendáveis



CONVECÇÃO
CONVECÇÃO COMBINADA

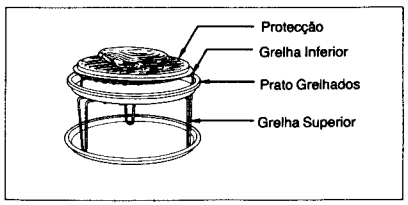


COZEDURA COM 2 PRATOS

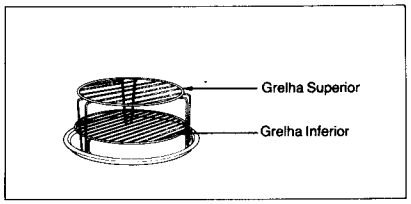


GRELHADOS/GRELHADOS COMBINADO

Nunca utilizar a seguinte Combinação de Acessòrios



Não utilizar esta montagem Excepto na cozedura convencional

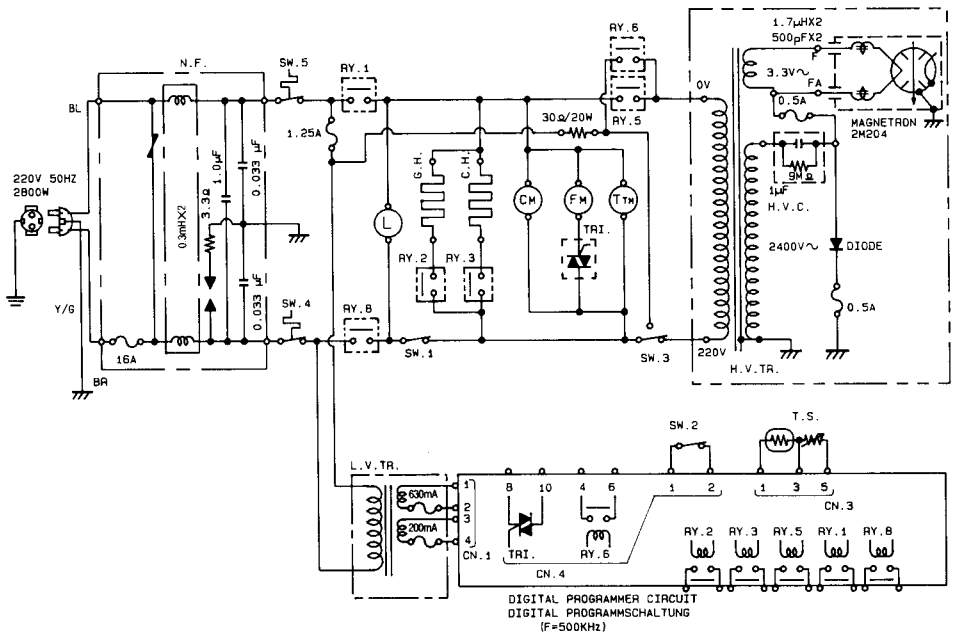


SCHEMATIC DIAGRAM (NE-972/NE-973 EPG/SPG/UPG)

SCHEMATIC DIAGRAM
SCHALTBILD

Anmerkund: *Die Tür ist geschlossen.
*Das Gerät ist noch nicht im Betrieb.

Note: *Door is closed.
*Unit is not operated yet.

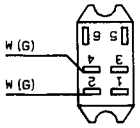


⏚	Grounding/Erdung
	Chassis Ground Chassis Erdung
	Fuse/Sicherung
SW. 1	Safety Switch B (Primary) Sicherheitsschalter B (Primär)
SW. 2	Safety Switch A (Door Signal Switch) Sicherheitsschalter A (Türsignalschalter)
SW. 3	Short Switch Kurzschlußschalter
SW. 4	Thermal Cutout A (Magnetron) Thermoschalter A (Magnetron)
SW. 5	Thermal Cutout B (Oven) Thermoschalter B (Garraum)
FM	Fan Motor/Ventilatormotor
CM	Convection Motor Heißluft-Ventilatormotor
TTM	Turn Table Motor Drehtellermotor
L	Oven Lamp/Garraumlampe
H.V.C.	High Voltage Capacitor Hochspannungskondensator
H.V.TR.	High Voltage Transformer Hochspannungstransformator
	High Voltage Diode Hochspannungsdiode
	Surge Absorber Überspannungsschutz
	Varistor
G.H.	Grill Heater Grillheizung
C.H.	Convection Heater Umluftheizung
L.V.TR.	Low Voltage Transformer Niederspannungstransformator
T.S.	Temperature Sensor Thermosensor
TRI.	Triac
N.F.	Noise Filter/Störschtzfilter
RY.1	Power Relay A Leistungsrelais A
RY.2	Power Relay B Leistungsrelais B
RY.3	Power Relay C Leistungsrelais C
RY.5	Power Relay E Leistungsrelais E
RY.6	Power Relay F Leistungsrelais F
RY.8	Power Relay D Leistungsrelais D
O	Orange
B	Black/Schwarz
BL	Blue/Blau
W	White/Weiß
Y	Yellow/Gelb
G	Green/Grün
BR	Brown/Braun
R	Red/Rot
LB	Light Blue Hell blau

WIRING DIAGRAM
VERBINDUNGSBILD

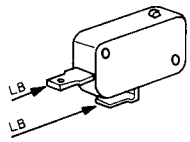
Anmekung: *Beim Auswechseln, die Farbe des Verbindungskabels beachten.
*Die Farbeangabe in Klammer entspricht der Farbe der Anschlußklemme.

Note: *When replacing, check the lead wire colour as shown.
*Colours shown by ( ) indicate colours of lead wire connector housing.

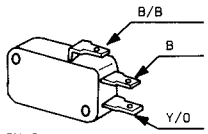


RY.5
POWER RELAY E
LEISTUNGSRELAIS E

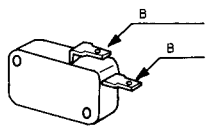
DIGITAL PROGRAMMER CIRCUIT
DIGITAL PROGRAMMSCHALTUNG



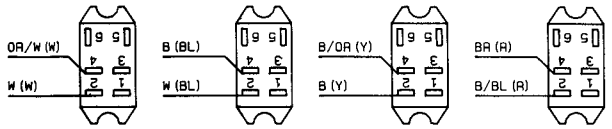
SW.2
SAFETY SWITCH A
SICHERHEITSSCHALTER A



SW.3
SHORT SWITCH
KURZSCHLUßSCHALTER



SW.1
SAFETY SWITCH B
SICHERHEITSSCHALTER B



RY.1 POWER RELAY A LEISTUNGSRELAIS A
RY.2 POWER RELAY B LEISTUNGSRELAIS B
RY.8 POWER RELAY D LEISTUNGSRELAIS D
RY.3 POWER RELAY C LEISTUNGSRELAIS C

Fig. 1

DESCRIPTION OF OPERATING SEQUENCE

1. Variable power cooking control

The coil of power relay E (RY. 5) is energized intermittently by the digital programmer circuit, when the oven is set at any power selection except for High power position. The digital programmer circuit controls the ON-OFF time of power relay E (RY. 5) contacts in order to vary the output power of the microwave oven from "Warm" to "High" power. One complete ON and OFF cycle of power relay E (RY. 5) is 22 seconds.

The relation between indications on the control panel and the output of the microwave oven is as shown in **Fig. 2A.**

NOTE: The ON/OFF time ratio does not correspond with the percentage of microwave power since approximately 2 seconds are required for heating of magnetron filament.

2. Cyclic defrost

When defrost power and defrosting time is selected and Start pad is touched:

(A) The digital programmer circuit (DPC) divides the total defrosting time into 8 intervals of alternating defrosting power and standing periods. (See **Fig. 2B**)

(B) During defrosting power period, power relay E (RY. 5) is energized for 10 seconds and de-energized for 12 seconds by DPC. (See **Fig. 2C**)

(C) During Standing periods, power relay E (RY. 5) is always open resulting in no microwave power.

NOTE: **Defrost time selected is converted into seconds by the DPC but display will show selected time in minutes and seconds as programmed. The total number of seconds is divided into 8 time periods. The remainder (seconds not equally divisible by 8) are added to the last standing time period.**

Example # 1: If defrosting time is selected for 2 minutes 56 seconds, each operating period will be as follows: (See **Fig. 2D**)
2 minutes 56 seconds = 176 seconds 176/8 = 22

Example # 2: If defrosting time is selected for 5 minutes, each operating period will be as follows : (See **Fig. 3**)
5 minutes = 300 seconds
300/8 = 37 and remainder is 4 seconds.
The 4 seconds is added to the last time period.

NOTE: **When defrosting time is selected for not more than 7 seconds, the power relay E (RY. 5) will not be energized at all.**

Power setting	Output Power	On-Off Time of Power Relay E (RY. 5)
High	600W (22/22)	22 sec ON, 22 sec ON
Medium	480W (19/22)	19 sec ON, 3 sec OFF, ON, OFF
Low	360W (15/22)	15 sec ON, 7 sec OFF, ON, OFF
Simmer	180W (9/22)	9 sec ON, 13 sec OFF, ON, OFF
Warm	70W (4/22)	4 sec ON, 18 sec OFF, ON, OFF
**	Approx. 120W	Refer to description of cyclic defrost.

Fig. 2A

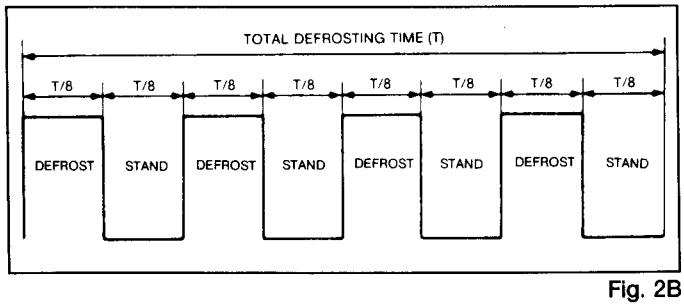


Fig. 2B

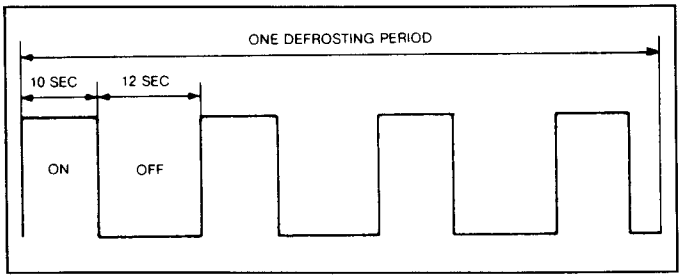


Fig. 2C

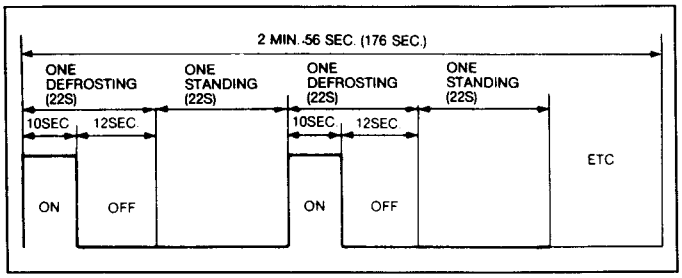


Fig. 2D

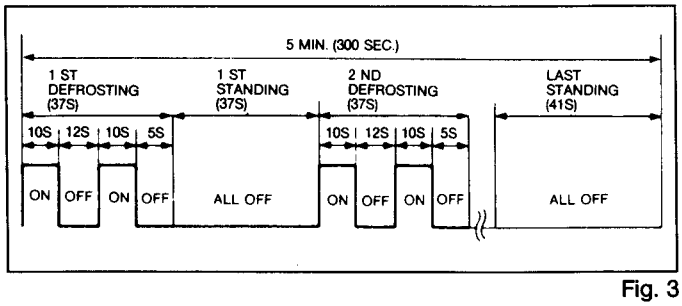


Fig. 3

3. Convection cooking control ( )

The digital programmer circuit controls the ON-OFF time of convection and grill heaters which are located at rear and top of oven cavity respectively in order to control oven cavity temperature.

Normal Convection Cooking

(A) After the start pad is tapped with the desired normal convection programme set, an 18V DC signal comes out of the digital programmer circuit and is applied to the coils of power relays B (RY. 2) and C (RY. 3).

(B) When power relays B (RY. 2) and C (RY. 3) energize, power source voltage (220V AC) is applied to both convection and grill heaters and oven temperature starts increasing.

(C) When the oven temperature reaches the set temperature, the digital programmer circuit senses the temperature through oven temp sensor and stops supplying an 18V DC signal to the power relays B (RY. 2) and C (RY. 3) resulting in both convection and grill heaters to turn off.
After the heaters turn off, the oven temperature will continue increasing a while then decrease as shown in **Fig. 4**.

(D) When the oven temperature drops below the set temperature, the digital programmer circuit senses the oven temperature and starts supplying an 18V DC signal to the coils of power relays B (RY. 2) and C (RY. 3) again.
Note that grill heater (power relay B/RY. 2) turns on and off alternatively at predetermined duty cycle (7 sec ON, 15 sec OFF) until oven temperature reaches set temperature again by the signal from digital programmer circuit. (**Fig. 4**)

Dual Shelves Convection Cooking ( )

When the start pad is tapped with dual shelves convection cooking feature selected;

(A) The digital programmer circuit generates the 18V DC of 20 sec ON, 2 sec OFF signals for convection heater (power relay C/RY. 3) and continued High signal for grill heater (power relay B/RY. 2) as shown in **Fig. 4** so that both heaters turn on to increase oven cavity temperature.

(B) When the oven temperature reaches set temperature, the digital programmer circuit stops supplying the 18V DC signals to turn both heaters off.

(C) When the oven temperature drops below the set temperature, the digital programmer circuit starts to supply the 18V DC signals again but at different duty ratio as shown in **Fig. 4**.

NOTE: See **Fig. 4** for operating sequences of microwave, turntable, fan and convection fan motors during convection cooking mode.

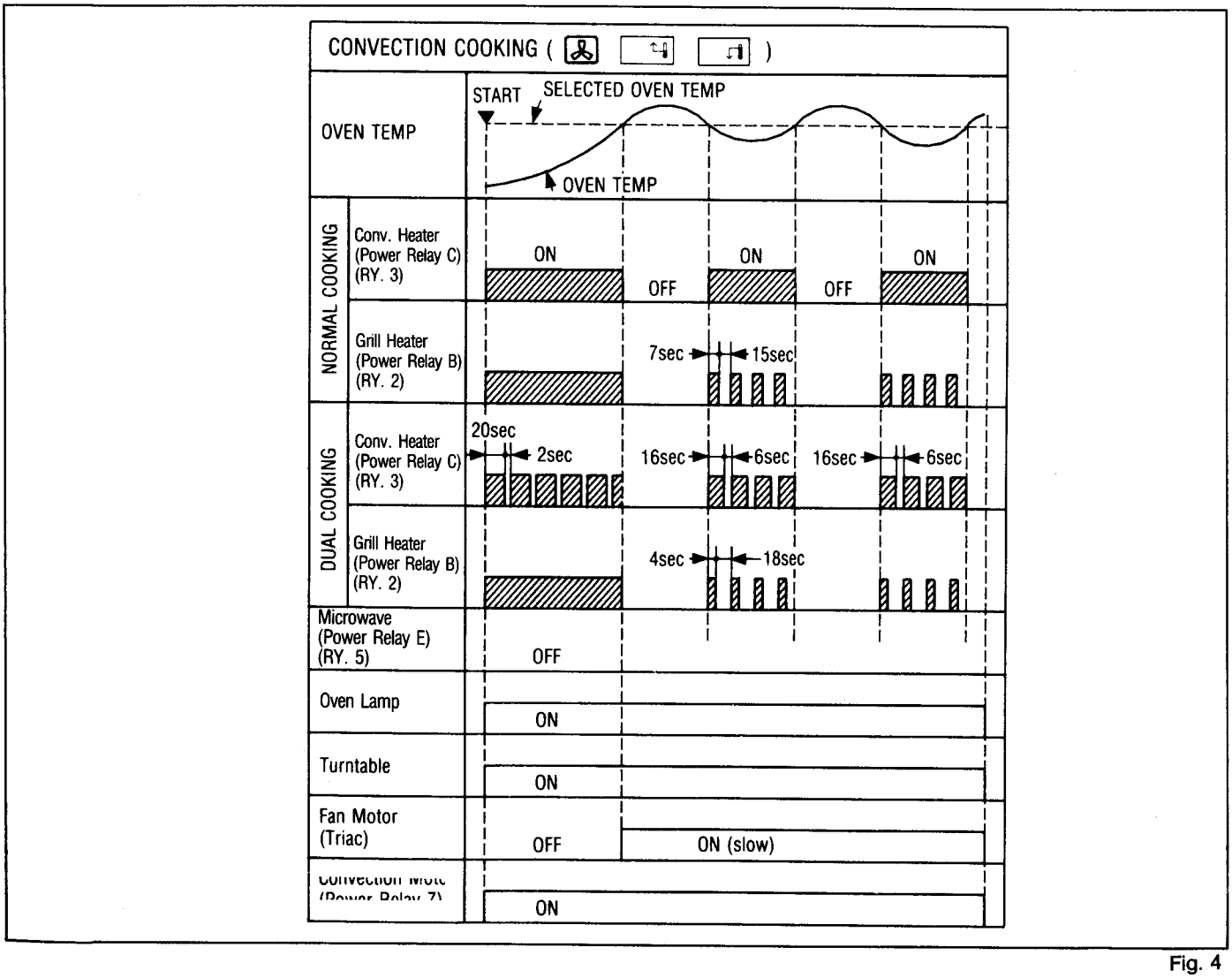


Fig. 4

4. Grill cooking control (▭)

The grill cooking control functions very similarly to convection cooking control except the timing of applicable heaters ON OFF periods.

(A) After the start pad is tapped with the desired grill programme set, the digital programmer circuit generates the 18V DC signals and supplies to power relays B (RY. 2) and C (RY. 3) so that both power relays energize to turn on the grill and convection heaters.

(B) When both heaters turn on, the oven temperature rapidly increases and when it reaches 240℃, the digital programmer circuit stops supplying an 18V DC to power relay C (RY. 3) coil but continues to supply to power relay B (RY. 2).

(C) The digital programmer circuit continues to supply an 18V DC to power relay B (RY. 2) for a period of 25 minutes and when 25 minutes have elapsed, the digital programmer circuit starts cycling to supply an 18V DC at a rate of one minute ON and one minute OFF until cooking programme completes.
The convection heater remains off through out the rest of cooking cycle.

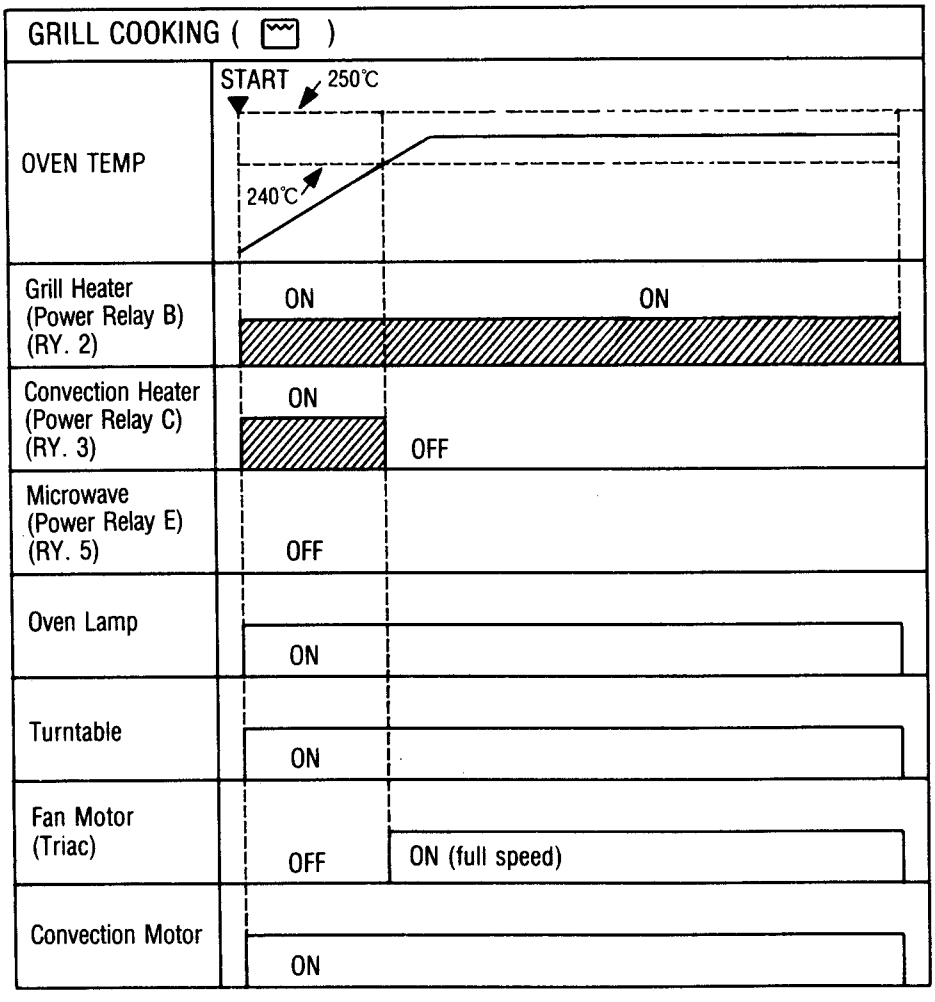


Fig. 5

5. Combination cooking control ( )

Combination cooking is accomplished by microwave and convection cooking being done simultaneously during combination cycles.

When combination categories 1, 2, 3, 4 and 5 are selected;

(A) The digital programmer circuit generates the power relays B (RY. 2), C (RY. 3) and E (RY. 5) control signals at timing shown in **Fig. 6B**.
The power relay E (RY. 5) (microwave) remains off until oven temperature reaches predetermined temperature which varies by each category number as shown in **Fig. 6A**.

(B) When the oven temperature reaches the predetermined temperature, the digital programmer circuit stops supplying power relays B (RY. 2) and C (RY. 3) control signals resulting in both grill and convection heaters to turn off and starts supplying power relay E (RY. 5) control signal so that microwave activity starts at predetermined duty ratio as shown in **Fig. 6A**.
The microwave activity continues to cycle until entire cooking programme is completed.

(C) When the oven temperature drops below the predetermined temperature, the digital programmer circuit generates power relay B (RY. 2) and C (RY. 3) control signals again at the timing predetermined.

NOTE: **The power relays B (RY. 2), C (RY. 3) and E (RY. 5) never turn on at the same time.**
Either power relay should be always off so that input current always remains within allowable household current.

COMBINATION CATEGORY		MICROWAVE POWER		OVEN TEMP
		DUTY ON TIME	POWER	
MICROWAVE & CONVECTION COMBINATION	1	9/22 SEC	220 W	190 ℃
	2	13/22 SEC	330 W	200 ℃
	3	15/22 SEC	380 W	220 ℃
	4	8/22 SEC	190 W	250 ℃
	5	15/22 SEC	380 W	180 ℃
MICROWAVE & GRILL COMBINATION	6	15/22 SEC	380 W	approx. 250 ℃

Fig. 6A

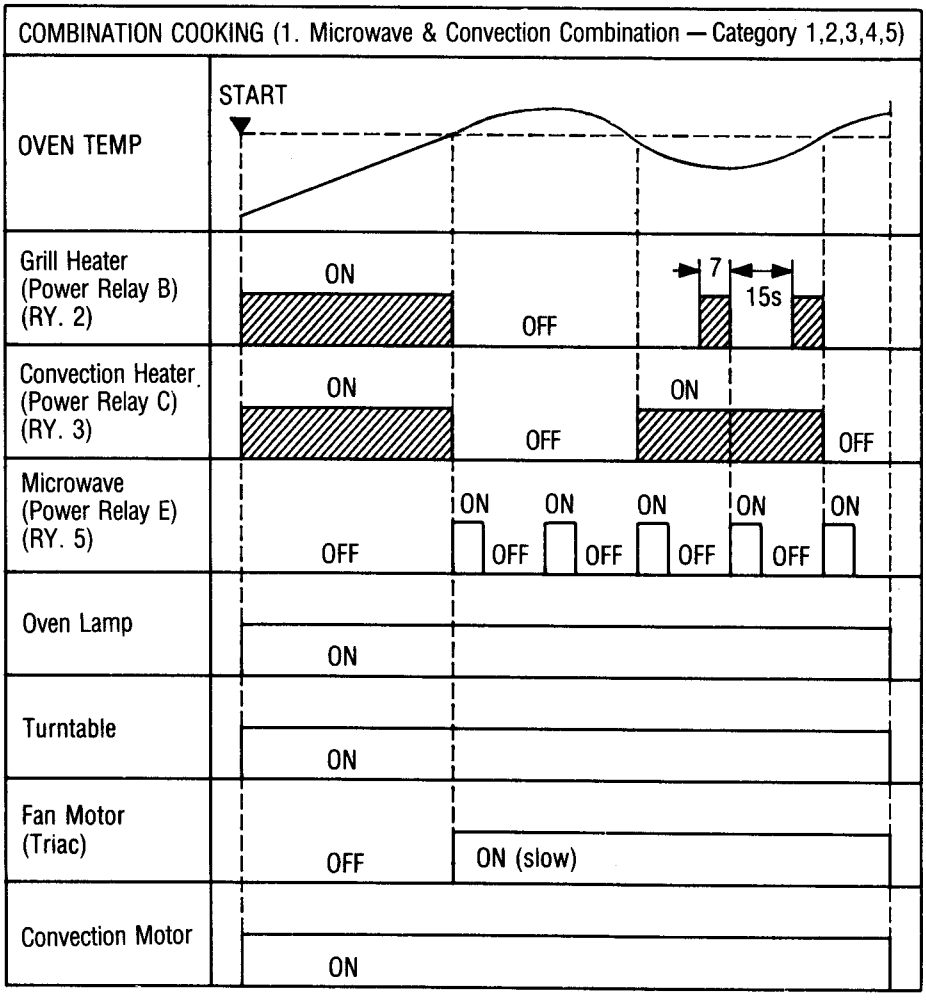


Fig. 6B

When combination category 6 is selected;

(A) The digital programmer functions exactly the same as when category 1 through 5 are selected until oven temperature reaches 240℃.

(B) When oven temperature reaches 240℃, the digital programmer circuit stops supplying control signal for power relay C (RY. 3) but continues to supply to power relay B (RY. 2) and starts supplying the control signal for power relay E (RY. 5) at the timing shown in **Fig. 7**. The power relay C (RY. 3) remains off through out the rest of entire cooking cycle.

(C) After oven temperature reaches 240℃, the microwave activity continues in the rest of entire cooking cycle.

NOTE 1: The power relays B (RY. 2), C (RY. 3) and E (RY. 5) never turn on at the same time. Either power relay should be always off so that input current always remains within allowable household current.

NOTE 2: Note that the heater may not be on during a heater on period if the predetermined oven temperature has been reached.

NOTE 3: **Fig. 6A** shows the predetermined microwave power and oven temperature for each category pad. Each programme is pre-programmed in the microprocessor.

NOTE 4: The fan motor speed differs depending on the category pads. When categories 1 through 5 are selected, the fan rotates at slower speed while category 6 is selected it runs at full speed.

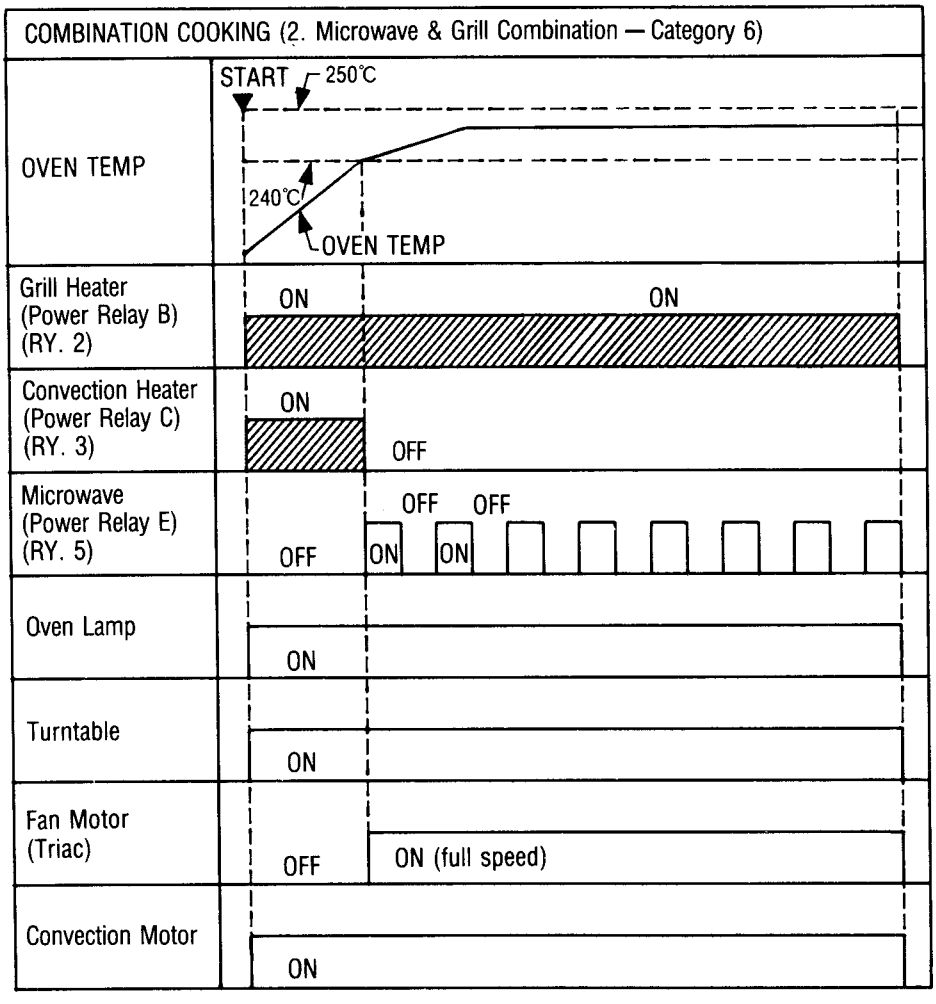


Fig. 7

6. Auto weight combination cooking control ( )

Consists of following pads:
- Auto Weight Control, Combination Pad
- Weight Pads
- Start Pad

When the Auto Weight Control, Combination Cooking feature is selected by tapping the appropriate key pads and Start pad is tapped.

(A) The digital programmer circuit determines the power level, oven temperature and combination cooking time to complete combination cooking and indicates the operating state in the display window.
Fig. 8 shows the combination cooking times for respective weights by categories.

(B) When the combination cooking time in the display window has elapsed, the oven turns off automatically by the controlled signal from the digital programmer circuit.

NOTE: Refer to cooking pattern of "Microwave & Convection Combination/**Fig. 6B.**" for Auto Weight Combination Cooking.

AUTO WEIGHT COMBINATION ( )

WEIGHT SELECTED	TOTAL COMBINATION COOKING TIME					
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
1 kg	19 min. 00 sec.	28 min. 20 sec.	34 min. 00 sec.	40 min. 00 sec.	28 min. 20 sec.	30 min. 40 sec.
2 kg	38 min. 00 sec.	51 min. 40 sec.	54 min. 00 sec.	1 hour 05 min.	46 min. 40 sec.	56 min. 20 sec.
3 kg	57 min. 00 sec.	1 hour 15 min.	1 hour 14 min.	1 hour 30 min.	1 hour 05 min.	1 hour 22 min.

Fig. 8

CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high voltage, high current equipment.
Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION
Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the earthing

Do not operate on a 2 wire extension cord. The microwave oven is designed to be used in a completely earthed condition. It is imperative, therefore, to make sure it is properly earthed before beginning repair work.

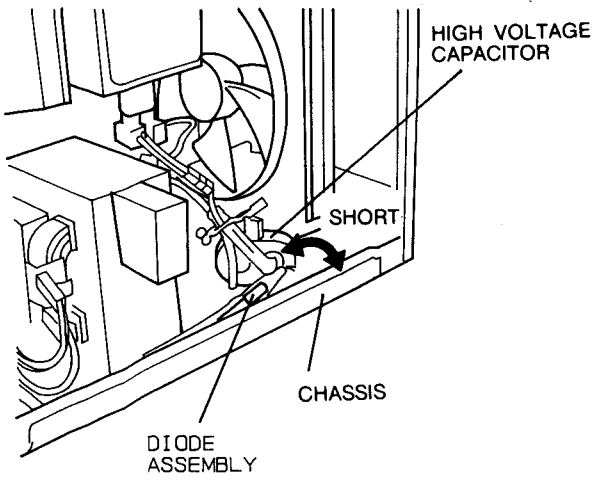
2. If the door lock, the door switch, the door seal or the door develops a malfunction, be sure not to operate the oven until complete repairs are made.

If the oven is operated with any of these parts in imperfect condition, hazardous microwave leakage might occur.

WARNING
Never operate the oven until the following are confirmed:
(A) The door is tightly closed.
(B) There is no broken hinge or door arm.
(C) The door seal is not damaged.
(D) The door is not bent or warped.
(E) There is no other visible damage.

3. Warning about the electric charge in the high voltage capacitor. (Fig. 9)

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitor. When replacing or checking parts, remove the power plug from the outlet, wait 30 seconds and short the terminal of the high voltage capacitor (terminal of lead wire from diode) to chassis ground with an insulated jumper lead wire or an insulated handle screwdriver to discharge.



Touch chassis side first then short to the high voltage capacitor terminal.

Fig. 9

WARNING
There is high voltage present, with high current capabilities in the circuits of the high voltage winding and filament winding of the high voltage transformer. It is extremely dangerous to work on near these circuits with oven energized.
DO NOT measure the any voltage of high voltage circuit including filament voltage of magnetron.

WARNING
Never touch any circuit wiring with your hand nor with an insulated tool during operation.

4. When parts must be replaced, always remove the power plug from the outlet, and discharge the high voltage capacitor.

5. Confirm after repair

(A) After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing.
Microwave might leak if screws are not properly tightened.
(B) Make sure that all electrical connections are tight before inserting the plug into the wall outlet.

6. Avoid inserting nails, wire, etc. through holes in unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

7.

CAUTION
MICROWAVE RADIATION
Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating device if it is improperly used or connected all input and output microwave connections waveguides, flanges, and gasket must be secure. Never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

8.

CAUTION
High voltage parts may become uncovered when outer cabinet is removed.

SÄKERHETSÅTGÄRDER ATT TAGA HÄNSYN TILL VID FELSÖKNING OCH REPARATION

Till skillnad fran andra apparater har mikrovågsugnar högspänningstarkströmsutrustning.
Även om ugnen är helt säker vid normalt bruk, skall största försiktighet vidtagas vid reparation.

VARNING
Vid reparation i närheten, eller vid byte av magnetron, skall armbandsur avtagas.

1. Kontroll av jordning.

Använd ej en 2-ledad anslutningssladd. Mikrovågsugnen är tillverkad så att den skall användas jordad. Tillse därföratt ugnen är ordentligt jordad innan arbetet påbörjas.

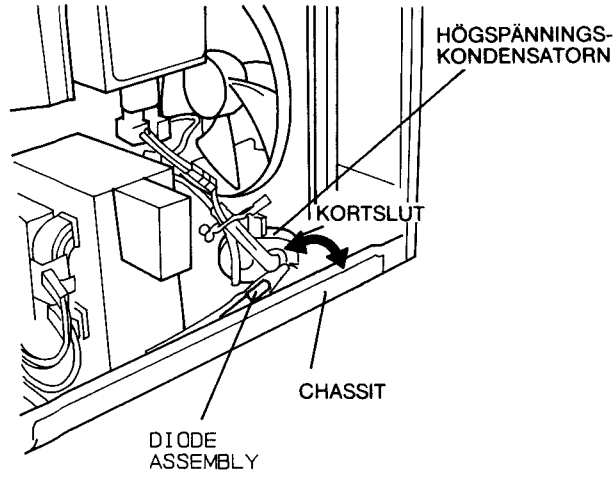
2. Om dörrlåset, dörromkopplaren eller dörrtillslutningen visar någon felaktighet, använd ej ugnen innan felet är avhjälpt.

Om ugnen används när något av dessa fel har uppstått kan ev. Mikrovågsläckage uppstå.

VARNING
Sätt aldrig på ugnen innan följande har kontrollerats:
(A) Dörren är ordentligt stängd.
(B) Dörrtätningslisten inte är skadad.
(C) Dörren är skev, böjd eller otät.
(D) Gångjärnen är hela.
(E) Att annan synlig skada inte finns.

3. Varning för elektrisk ström I högspänningskondensatorn (Fig. 9)

CA: 30 sekunder efter det att ugnen stängts av, kvarstår en elektrisk laddning I högspänningskondensatorn. Vid utbyte eller kontroll av delar, stäng av ugnen, vänta I 30 sekunder och kortslut därefter kondensatorn (Anslutningen för ledning från dioden) till ytter höljets jord genom att använda en isolerad kortslutningskabel.



Kontrollera att kortslutningskabeln är jordad till chassit innan högspänningskondensatorn kortslutes

Fig. 9

VARNING
Det är hög spänning med höt strömstyrkekapacitet i kretsarna för högspänningsledningarna. Det är ytterst farligt att arbeta med eller nära dessa kretsar under det att ugnen är påkopplad.

VARNING
Gör inga mätningar i högspänningsdelen eller av glödspänning för magnetronen.

4. Vid byte av delar, tag alltid ur nätkontakten från väguttaget och urladda högspänningskondensatorerna.

5. Kontroll efter reparation.

(A) Efter reparation eller vid byte av delar tillse att skruvar, flänsar och tätningar ej fattas eller ä lösa. Mikrovågor kan läcka ut om detta ej åtgärdats.
(B) Alla elektriska kopplingar skall < ara väl förbundna innan nätkontakten anslutes.

6. Stoppa aldrig in någon form av metallföremål i håligheter eller springor under det att apparaten är påslagen.

Metallföremål kan fungera som antenn och förorsaka mikrovågs läckage.

7.

VARNING
för
MIKROVÅGSSTRÅLNING.
Mikrovågsenergi kan stråla från magnetronen eller från annan mikrovågsgenererande anordning om den används eller ansluts felaktigt. Alla anslutningar för mikrovåg, såsom flänsar och tätningar måste vara betryggande ur säkerhetssynpunkt. Starta aldrig anorningen utan mikrovågsabsorberande belastning. Mikrovågsstrålning från en öppen vågledare eller antenn har sådan strålningstäthet att uppenbar skaderisk föreligger.

8.

VARNING
Vid avlägsnande av apparatens ytterhölje friläggs högspänningsföerande delar.

LAITTEEN HUOLLOSSA JA KORJAUKSESSA HUOMIOONOTETTAVIA VAROTOIMENPITEITÄ

Toisin kuin monet muut kotitalouskoneet toimii mikroaaltouuni suurella käyttöjännitteellä ja-virrala.
Vaikkakin uuni on täysin turvallinen normaalikäytössä, on sen korjauksessa noudatettava ehdottomasti varotoimenpiteitä.

VAROITUS

Magnetronia vaihdettaessa tai sen läheisyydessä työskenneltäessä tulee rannekello irroittaa.

1. Jos uunin oven lukkoon, sen kytkimeen tai tiivisteisiin tai itse oveen tulee jokin vika, ei uunia saa käyttää ennenkuin vika on korjattu.

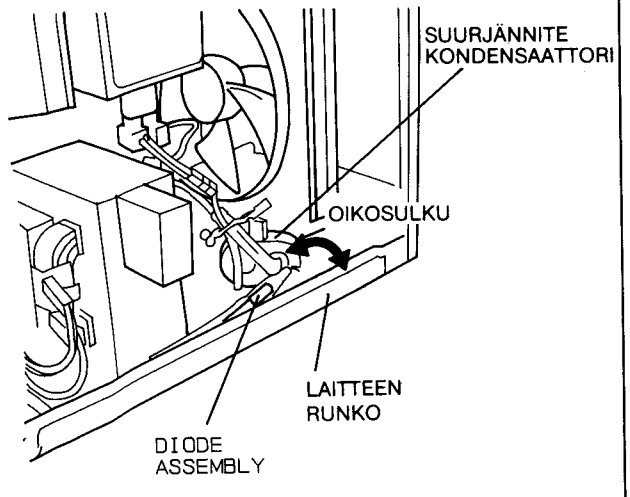
Jos uunia käytetään oven tai sen jonkin osan ollessa vioittunut, saattaa tapahtua vaarallista mikroaaltovuotoa.

VAROITUS

Ennen uunin käynnistämistä on aina ensin tarkistettava että:
(A) Uunin ovi on suljettu kunnolla.
(B) Oven tiivistyslistat eivät ole vahingoittuneet.
(C) Ovi ei ole vino, vääntynyt tai epätiivis.
(D) Oven saranat ovat ehjät.
(E) Ettei uuni ole mitenkään näkyvästi vaurioitunut

2. Huom! Sähkö varautuu korkeajännitekondensaattoriin. (Fig. 9)

Kun uuni on kytketty OFF-asentoon jää sähkövaraus korkeajännitekondensaattoriin noin 30:neksi sekunniksi. Kun asennat tai tarkistat uunin osia kytke uuni OFF-asentoon, odota 30 sekuntia ja oikosulje korkeajännitekondensaattorin kosketin (Diodin liitosjohtimen pääte) kojeiston runkoa vasten eristetyllä "hyppylangalla".



Varmistakaa että hyppylanka on maadoitettu laitteen rungon sivuun ennen suurjännite kondensaattorin päätteen oikosulkemista

Fig. 9

VAROITUS

Suurjännitepiireissä ja-johtimissa on korkea jännite ja voimavirta. Piirien läheisyydessä työskentely tai niiden huolto uunin toimiessa on erittäin vaarallista.

VAROITUS

Magnetronin hehkujännitettä tai sen suurjänniteosan jännitettä ei saa mitata.

3. Kun laitteeseen vaihdetaan osia on virtajohdin aina irroitettava seinästä ja korkeajännitekondensaattorien jännite purettava.

4. Tarkistukset korjaustöiden jälkeen.

(A) Korjauksen tai osien vaihdon jälkeen on tarkistettava että kaikki ruuvit, laipat ja tiivisteet ovat paikallaan ja kiristettyinä. Mikroaallot saattavat vuotaa löysistä liitoksista.
(B) Kaikki sähköiset liitännät on suoritettava ennen virran kytkemistä.

5. Uunin kotelon reikiin tai aukkoihin ei saa työntää mitään metalliesineitä uunin ollessa käytössä.

Metalliesineet voivat toimia antenneina ja aiheuttaa mikroaaltovuotoa.

6.

MIKROAALTOSÄTEILYÄ

Käyttäjä ei saa joutua alttiiksi mikroaaltoenergialle, jota voi säteillä magnetronista tai muusta mikroaaltoja kehittävästä laitteesta, jos sitä käytetään väärin tai jos se kytketään väärin. Kaikkien mikroaaltoliitäntöjen sekä syöttö-että ulostulopuolella, aaltoputkien laippojen ja tiivisteiden tulee olla varmistettuja. Mikroaaltouunia ei koskaan saa käyttää ilman kuormaa jossa mikroaaltoenergiaa kuluu. Avoimeen aaltoputkeen tai antenniin ei koskaan saa katsoa virran ollessa kytkettynä.

7.

VAROITUS

Irroitettaessa uunin kotelo paljastuu osia joissa on korkea jännite.

SIKKERHETSTILTAK SOM MÅ TAS HENSYN TIL VED FEILSØKING OG REPARASJON

I motsetning til annet kjøkkenutstyr har mikrobølgeovnen høyspenning, sterkstrømsutstyr. Selvom ovnen er helt sikker ved normal bruk, må man være spesielt forsiktig ved reparasjon.

ADVARSEL

Ved reparasjon i nærheten, eller ved bytte av magnetron skal armbåndsur tas av.

1. Kontroll av jording.

Bpuk ikke 2-lederkabel, mikrobølgeovnen er laget slik at den skal jordes. Pass derfor på at ovnen er skikkelig jordet før arbeidet påbegynnes.

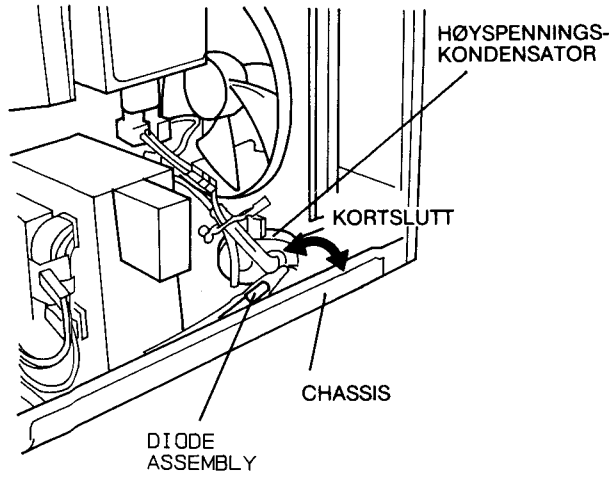
2. Om det finnes feil på dørlås, dørbryter eller dørtetning må ikke ovnen brukes før feilen er rettet. I motsatt fall kan mikrobølgelekkasje oppstå.

ADVARSEL

Bruk aldri ovnen før følgende er kontrollert:
A. Døren er ordentlig stengt.
B. Dørtetningslisten ikke er skadet.
C. Døren er skjev, bøyd eller utett.
D. Gangjernene er hele.
E. At det ikke er annen synlig skade.

3. Advarsel vedrørende elektrisk ladning i høyspenning kondensatoren. (Fig. 9)

Ca. 30 sekunder etter at ovnen er slått av, vil det fortsatt være igjen en elektrisk ladning i høyspenning kondensatoren. Ved kontroll eller skifting av deler, slå av ovnen, vent 30 sekunder og kortslutt høyspenning kondensatoren (Sammenkoblingspunkt for ledning fra dioden) til chassis med en isolert ledning som vist på **Fig. 9.**



Vaer sikker på att kortslutningskabeln er jordet til chassis før kortsluttning av høyspenningskondensatoren

Fig. 9

ADVARSEL

Det er høy spenning med høy strømstyrkekapasitet i høyspenningskretsene og glødestrømsviklingene på høyspenningstransformatoren. Det er meget farlig å arbeide med eller nær disse kretser med ovnen påkoblet.

ADVARSEL

Foreta aldri målinger i høyspenningsdelen eller glødespenningen for magnetronen.

4. Ved utskifting av deler, fjern alltid støpslet fra kontakten og kortslutt høyspenningskondensatorene.

5. Kontroller etter reparasjon:

(A) At skruer, flenser og tetninger ikke mangler eller er løse. Mikrobølger kan ellers lekke ut.
(B) At alle elektriske koblinger er iorden før kontakten settes i.

6. Putt aldri metallgjenstander inn i hull eller sprekker mens ovnen er tilkoblet.

Slike kan virke som antenne og forårsake mikrobølgelekkasje.

7.

ADVARSEL MOT MIKROBØLGESTRALING

Personer må aldri utsettes for stråling av mikrobølgeenergi. Alle tilkoblinger for mikrobølger, som flenser og tetninger må være sikkerhetsmessig betryggende utført. Start aldri apparatet uten mikrobølgeabsorberende belastning. Mikrobølgestråling fra åpen bølgeleder eller antenne har så stor strålingstetthet at det er stor risiko for skadevirkninger.

8.

ADVARSEL

Når ytterdekslet fjernes blir høyspenningsførende deler tilgjengelige.

SIKKERHEDSFORSKRIFTER VED FEJLFINDING OG REPARATION

I modsætning til mange andre elektriske apparater arbejder mikrobølgeovne ved høje spændinger og store strømme.
Selv om en mikrobølgeovn er fuldstændig sikker ved normal brug, skal reparation foretages med højeste forsigtighed.

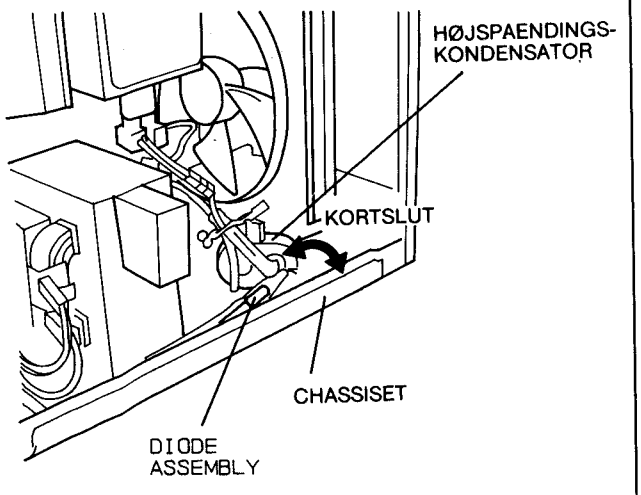
ADVARSEL
Tag Deres armbåndsur af, hvis De skal arbejde i nærheden af eller udskifte magnetronen.

1. Kontrol af jordforbindelse
Tilslut ikke ovnen ved hjælp af et 2-leder kabel. Mikrobølgeovnen er konstrueret til at arbejde med jordforbindelse. Se derfor efter at ovnen er forsvarligt jordet, før reparationen påbegyndes.

2. Hvis der er fejl ved låsen til ovndøren, omskifteren for døren eller tætningen af døren, må ovnen ikke anvendes, før fejlen er afhjulpet.
Hvis ovnen bruges, uden at sådanne fejl er afhjulpet, er der risiko for udstråling af mikrobølger.

ADVARSEL
Tænd aldrig for ovnen, før De har kontrolleret, at
(A) Døren er forsvarligt lukket,
(B) Tætningslisten omkring døren ikke er beskadiget,
(C) Ovndøren ikke er skæv, bøjet eller utæt,
(D) Hængslerne er hele, og
(E) Der ikke findes andre synlige beskadigelser.

3. Advarsel om opladning af højspændingskondensatoren (Fig. 9)
Indtil omkring 30 sekunder efter at ovnen er afbrudt, vil højspændingskondensatoren stadig være opladet. Afbryd ovnen, når De skal udskifte eller kontrollere komponenter, vent 30 sekunder og kortslut højspændingskondensatorens ene tilslutning (Tilslutning for ledning fra dioden) til chassiset med et isoleret stykke ledning.



Kortslutningstråden skal vaere stelforbundet før højspaendingskondensatoren kortsluttes

Fig. 9

ADVARSEL
Der er højspænding i forbindelse med stor strømkapacitet i forbindelse med højspændingsviklingen og glødeviklingen på højspændingstransformatoren. Det er særdeles farligt at arbejde med eller i nærheden af disse kredsløb, når der er tændt for ovnen.
Forsøg IKKE at udføre målinger på højspændingskredsløbet eller glødespændingen for magnetronen.

ADVARSEL
Undgå at berøre kredsløbene, hverken med hånden eller med isoleret værktøj, mens ovnen er i gang.

4. Hvis det er nødvendigt at udskifte komponenter, skal De altid fjerne netstikket fra stikkontakten og aflade højspændingskondensatorerne.

5. Kontrol efter reparation
(A) Efter reparation eller udskiftning af komponenter må De se efter, at alle skruer og tætningslister er på plads og fastspændt.
Der kan opstå lækage af mikrobølger, hvis skruerne ikke er forsvarligt strammet.
(B) Alle elektriske forbindelser skal være i orden, før De sætter netstikket i stikkontakten.

6. Sæt under ingen omstændigheder metalgenstande i åbninger på apparatet, mens det er i gang.
Metalgenstande kan virke som antenner og forårsage lækage af mikrobølger.

7.

FORSIGTIG
MIKROBØLGEUDSTRÅLING
Personer må ikke udsættes for mikrobølgeenergi, som kan udstråles fra magnetronen eller anden mikrobølgegenerator, hvis den er forkert anvendt eller forbundet. Alle mikrobølgeforbindelser, bølgeledere, flanger og pakninger skal være sikre. Tilslut aldrig apparatet uden en belastning, som kan absorbere mikrobølgeenergi. Se aldrig ind I en åben bølgeleder eller antenne, mens apparatet er I gang. Mikrobølgestrålingen fra en åben bølgeleder eller antenne har så stor intensitet, at der er overhængende risiko for skader.

8.

ADVARSEL
Når apparatets kabinet aftages, bliver der adgang til dele med højspænding.

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

1. Replacement of the magnetron (See Fig. 10)

CAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

(A) Discharge the high voltage capacitor. (See pages 15 through 19.)
(B) Remove 2 screws holding thermal cutout.
(C) Remove a screw holding the reinforcement bracket B to the magnetron case.
(D) Remove air guide A by removing 1 screw holding it to the magnetron case. (**Fig. 10**)
(E) Remove 2 high voltage leads from filament terminals.
(F) Remove 4 screws holding the magnetron.
NOTE: To prevent microwave leakage, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron.

CAUTION

When connecting 2 filament lead wires to the magnetron terminals, be sure to connect the lead wires in the correct position. The lead wire of high voltage transformer should be connected to "F terminal" and the lead wire with 500mA fuse from high voltage capacitor should be connected to "FA terminal". (See **Fig. 10**)

Removal of Positive Lock connector
The positive lock connector is a specially designed loose free connector and you will find this connector in many lead wire connections. To remove this connector, pull the lead wire by pressing an extruded lever in the center of receptacle terminal as shown in **Fig. 11.**

2. Replacement of the fan motor

(A) Disconnect all lead wires from fan motor, noise filter and high voltage capacitor. (Refer paragraph "Removal of Positive Lock Connector" and **Fig. 11**.)
(B) Remove 6 screws holding the back panel. (**Fig. 12A**)
(C) Remove 3 screws holding the fan motor bracket. (**Fig. 12B**)
(D) Pull the fan motor with the bracket toward you.
(E) Remove fan blade from the fan motor shaft by pulling it straight out.
(F) Remove the fan motor by removing 2 screws holding it to the fan motor bracket. (**Fig. 12C**)

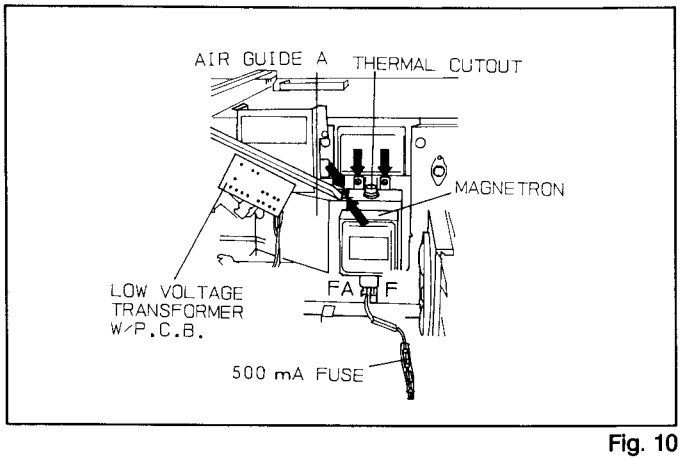


Fig. 10

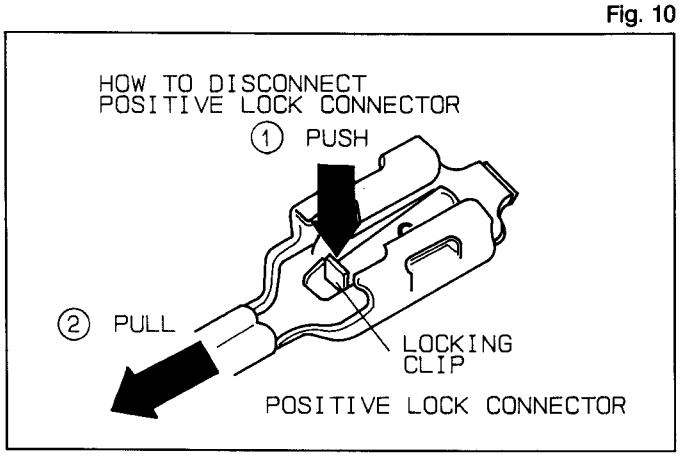


Fig. 11

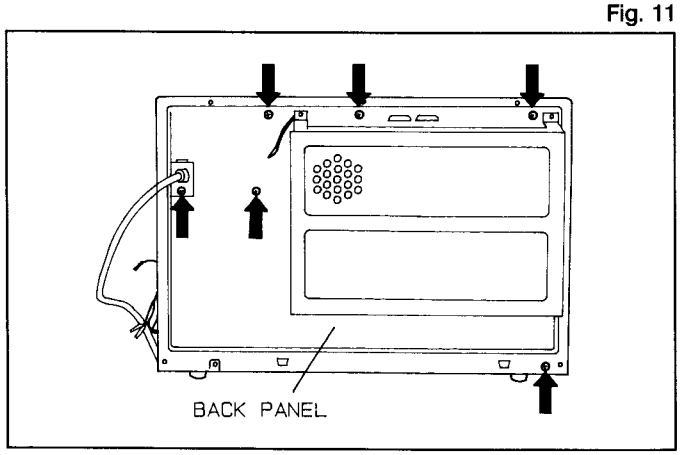


Fig. 12A

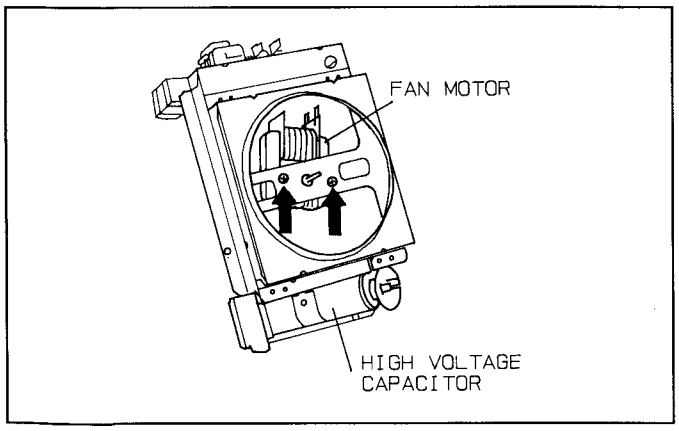


Fig. 12C

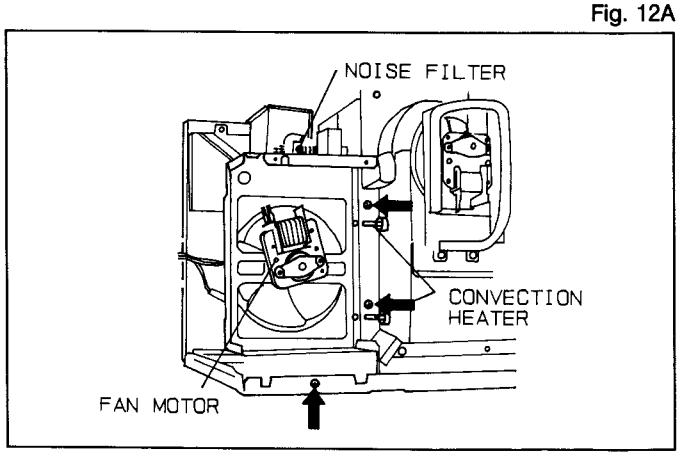


Fig. 12B

3. Replacement of the digital programmer circuit (D.P.C.)

NOTE: Be sure to ground any static electric charge built up in your body, before handling the D.P.C..

(A) Unplug the 5-pin connector (CN3) from the D.P.C..
(B) Unplug 4-pin (CN1) and 10-pin (CN4) connectors from the D.P.C..
(C) Disconnect all lead wires from the power relays (RY1, RY2, RY8, RY3, RY5).
(D) Remove a screw holding the grounding lead wire of D.P.C..
(E) Remove the screw holding the tab of membrane key board (**Fig. 13**).
(F) Remove 2 screws to release escutcheon base assembly. (**Fig. 13**)

NOTE: The escutcheon base assembly is also mounted to oven with a catch hook, located at upper left corner. Release the catch hook by using flat screwdriver or the like when removing.

(G) Release CN2 connector's lid of DPC and pull off the flat cable of the membrane key board. (**Fig. 14**)
(H) Remove 2 screws holding the DPC. (**Fig. 14**)
(I) Separate the DPC from escutcheon base by carefully freeing the 2 catch hooks on escutcheon base while pulling outward.

To be continued for replacement of the membrane key board

(J) Push the corner part of membrane key board (point A in **Fig. 15**) from back side of escutcheon base by using flat screwdriver or the like and peel off the membrane key board from escutcheon base. (**Fig. 15**)

NOTE: The membrane key board is attached to the escutcheon base with double faced adhesive tape.

Installation procedure of membrane key board

(A) Insert the flat cable and grounding tab of membrane key board to holes of escutcheon base.
(B) Set the right side edge of key board to the right side bezel of escutcheon base.
(C) Insert the left side edge of key board to the left side bezel of escutcheon base while expand the center line of membrane key board.
(D) Press down the membrane key board by soft cloth.

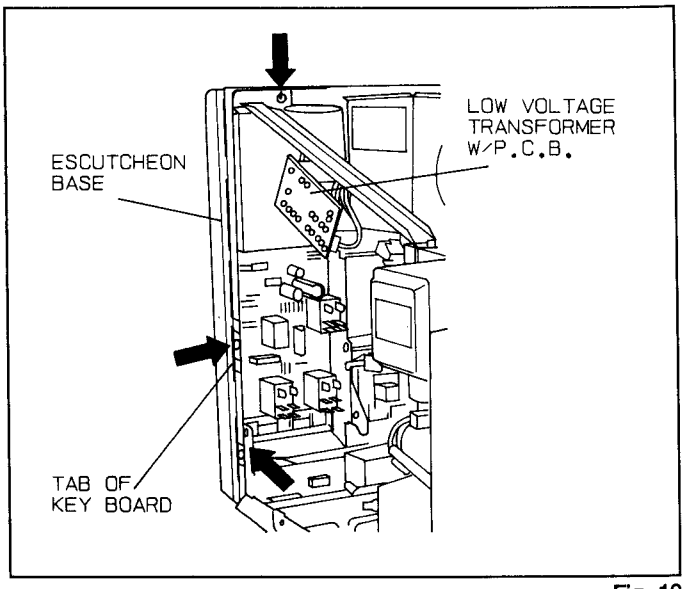


Fig. 13

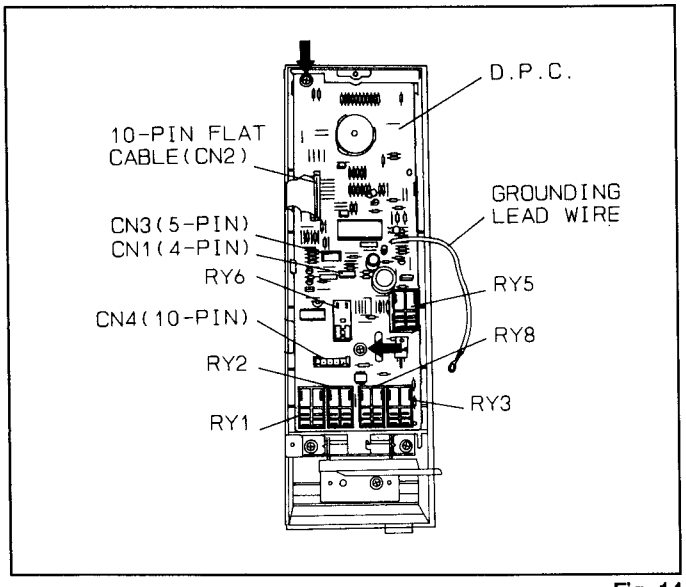


Fig. 14

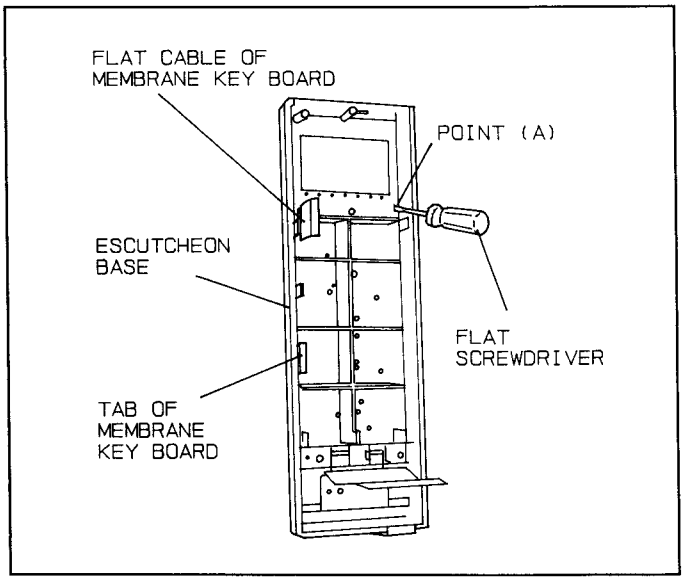


Fig. 15

4. Replacement of the power relays (RY1, RY2, RY8, RY3, RY5) on the D.P.C.. (Fig. 14)

(A) Using solder wick or a desoldering tool, carefully remove all solder from the terminal pins of power relays.

NOTE: Do not use a soldering iron or desoldering tool of more than 30 watts on the D.P.C. contacts.

(B) With all the terminal pins cleaned and separated from the D.P.C. contacts, remove the defective power relay and install new power relay making sure all terminal pins are inserted completely. Resolder all terminal contacts carefully.

5. Replacement of the convection heater and convection motor

(A) Disconnect 3 lead wires of power supply cord from noise filter and fan motor bracket.
(B) Remove 6 screws holding the back panel. (**Fig. 12A**)
(C) Remove 3 screws holding the fan motor bracket. (**Fig. 12B**)
(D) Disconnect 2 lead wires from convection motor.
(E) Remove oven temp sensor by removing 2 screws. (**Fig. 16C**)
(F) Remove 2 convection heater lead wires by removing screws.
(G) Remove 10 screws holding heater panel. (8 screws for back side, 2 screws for inside of oven cavity) (**Fig. 16A & 16B**)

When replacing heater

(H) Remove spring (speed) nuts from heater terminals. (**Fig. 16C**)
(I) Remove the convection heater from back panel and heater supports. (**Fig. 16C**)

When replacing convection motor

(J) Remove washer, fan spacer B, circulation fan blade and fan spacer A by removing nut. (**Fig. 16C**)

NOTE: This nut is counterclockwise type.

(K) Remove convection motor bracket by removing 3 screws. (**Fig. 16C**) (The fan blade is released same time.)
(L) Remove convection motor by removing 2 screws. (**Fig. 16C**)
(M) Remove U ring from motor shaft. (**Fig. 16C**)

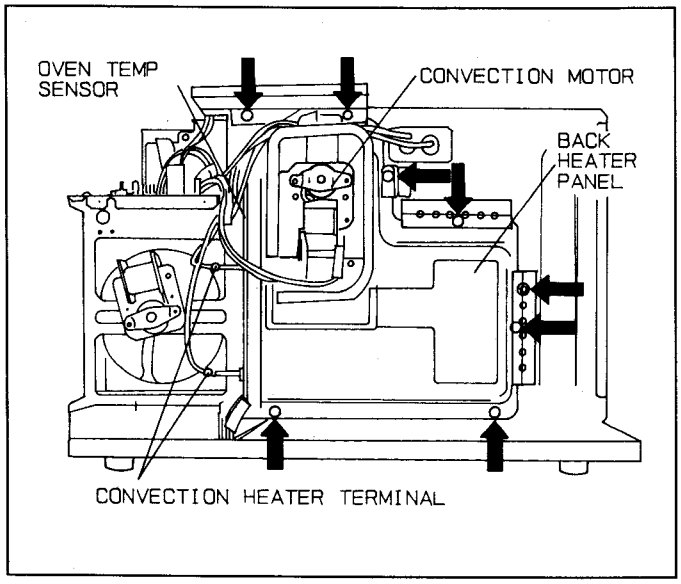


Fig. 16A

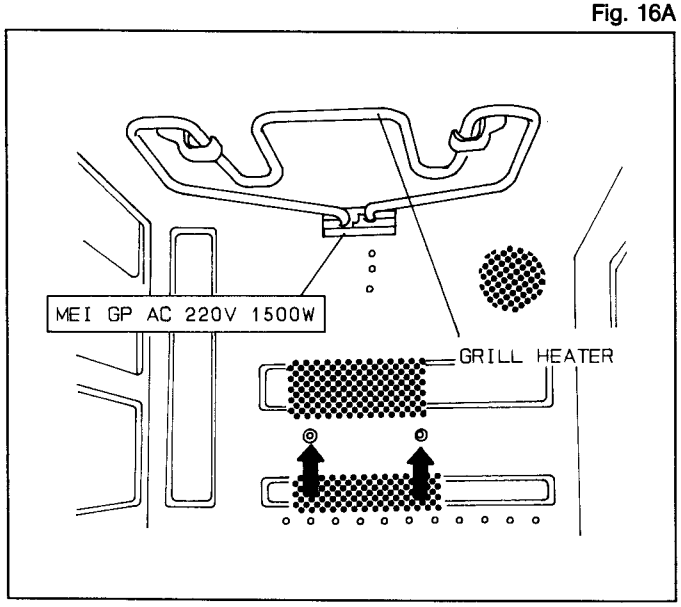


Fig. 16B

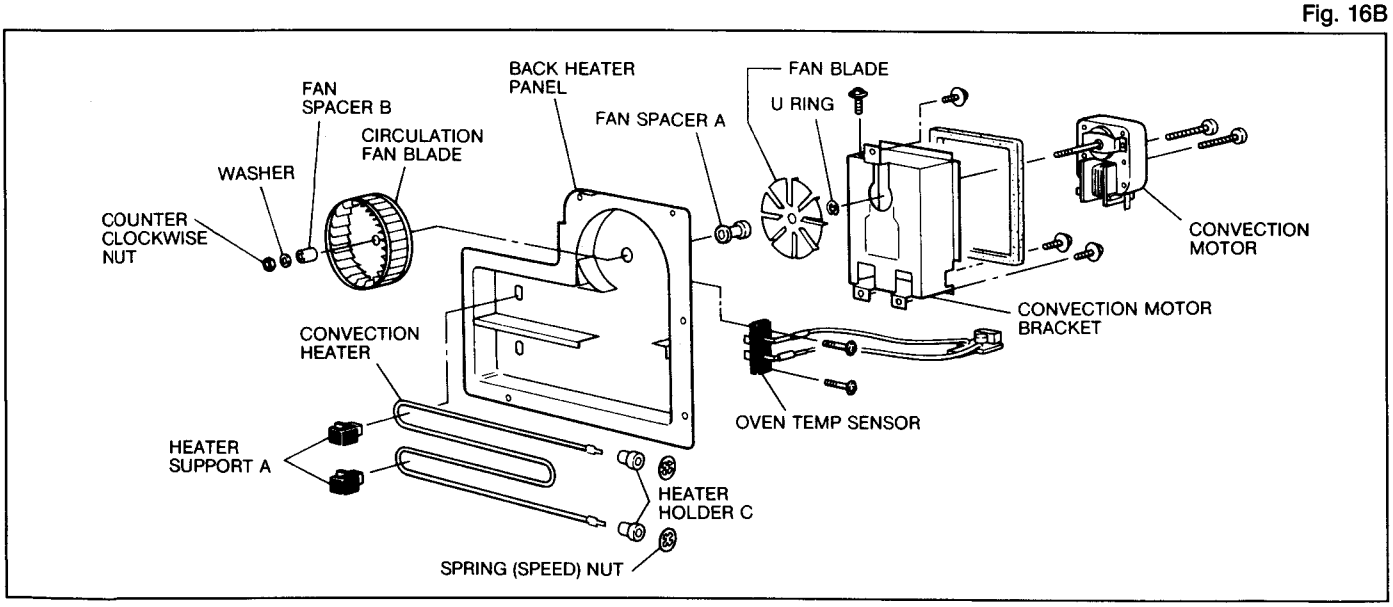


Fig. 16C

6. Replacement of the grill heater

(A) Disconnect 3 lead wires of power supply cord from noise filter and fan motor bracket.
(B) Remove 6 screws holding the back panel. **(Fig. 12A)**
(C) Remove 2 grill heater lead wires by removing screws.
(D) Remove 3 screws holding grill heater. **(Fig. 16D)**
(E) Remove spring (speed) nuts from heater terminals.
NOTE: Install new grill heater as its rating plate will make illustrated direction. **(Fig. 16B)**

7. Disassembly and replacement of the door assembly

(A) Remove 3 bolts holding the upper hinge to the oven assembly.
(B) Open the door assembly and while pulling the door assembly toward you, work the upper hinge out through the hole in the oven assembly. The door assembly will be simply lifted off bottom hinge pin at the same time.
NOTE: Do not lose spacer at the bottom hinge. **(Fig. 17A)**
(C) Place a protective pad or soft cloth on working table so as to prevent scratches on door screen B.
(D) Remove 4 screws holding the door C. **(Fig. 17A)**
(E) Remove the door C by carefully pulling outward starting from the upper right hand corner.
(F) Remove door key spring and remove 3 screws holding door handle. **(Fig. 17B)**
(G) Separate the door A from door E by carefully freeing the 10 catch hooks on door A while pulling outward. **(Fig. 17C)**
(H) Remove door keys, door key lever and handle pins from the door E. **(Fig. 17B)**
(I) When mounting the door assembly to the oven assembly, be sure to adjust the door assembly parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment. **(Fig. 17D & 17E)** Also adjust so that the door has no play between the inner door surface and oven frame assembly. If the door assembly is not mounted properly, microwaves may leak from the clearance between the door and the oven.

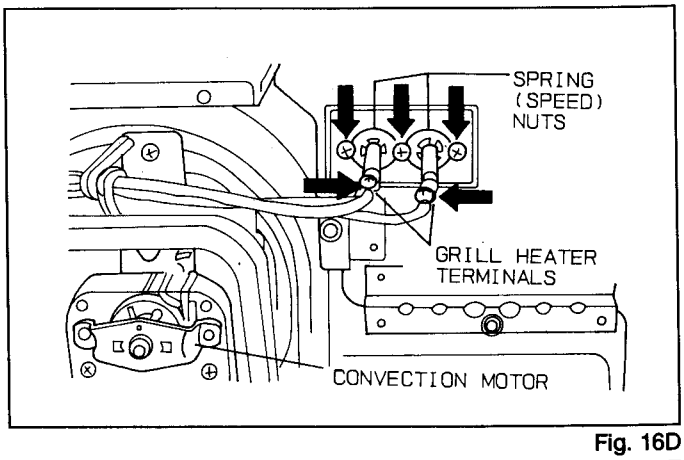


Fig. 16D

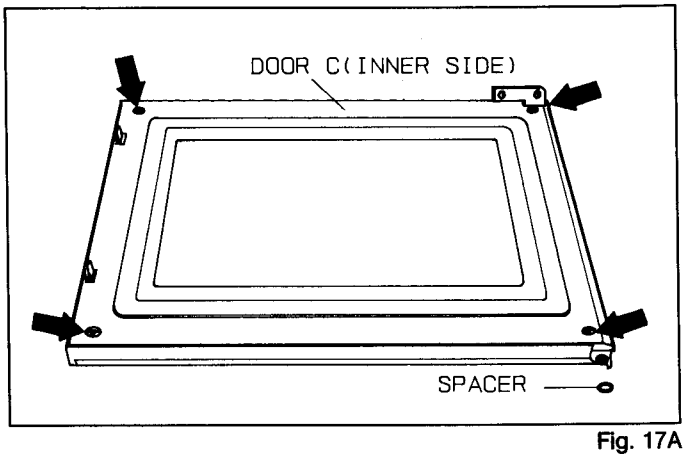


Fig. 17A

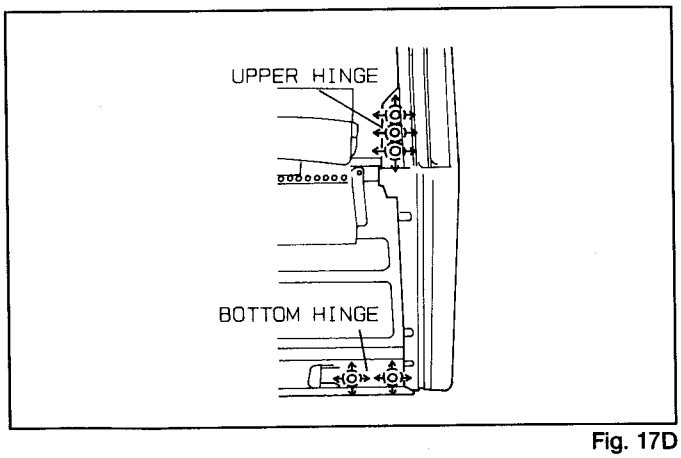


Fig. 17D

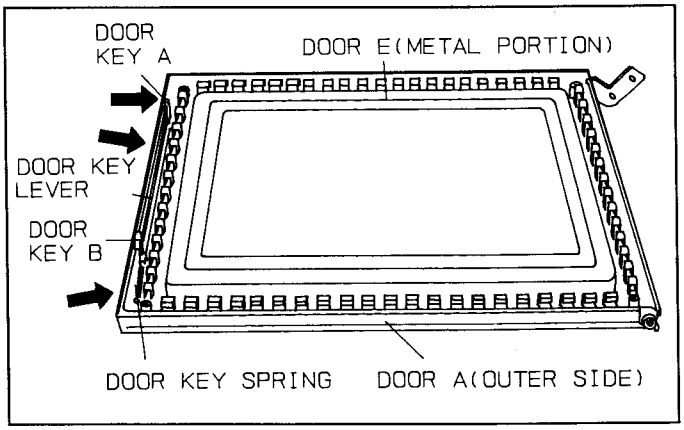


Fig. 17B

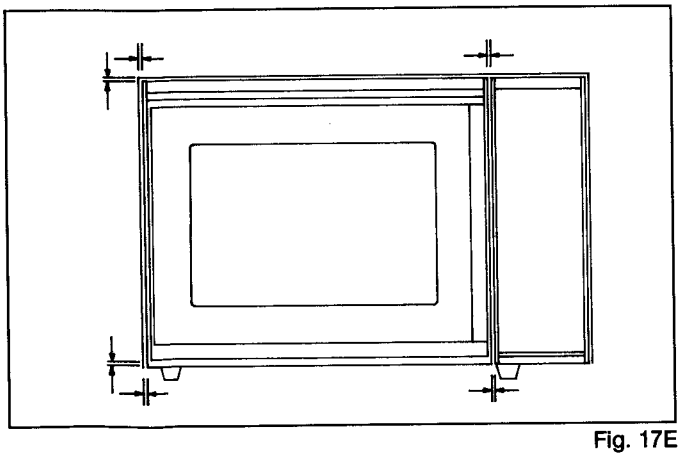


Fig. 17E

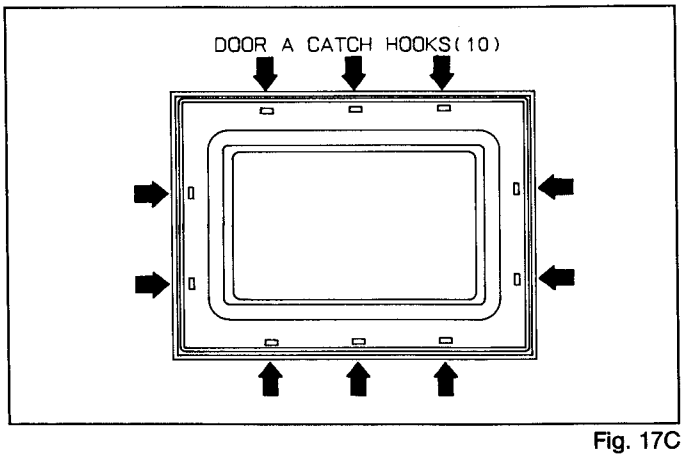


Fig. 17C

COMPONENT TEST PROCEDURE

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor. (See pages 15 through 19.)

1. High voltage transformer (refer to Fig. 18)

(A) Remove connections from the transformer terminals and check continuity.

(B) Normal (cold) resistance readings should be as follows:

Secondary winding	Approx. 80Ω ~ 120Ω
Filament winding	Approx. 0Ω
Primary winding (0V ~ 220V)	Approx. 0Ω ~ 3Ω

2. High voltage capacitor

(A) Check continuity of capacitor with ohmmeter on highest OHM scale.

(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.

(C) A shorted capacitor will show continuous continuity.

(D) An open capacitor will show constant 9MΩ.
((Due to internal 9MΩ resistor))

(E) Resistance between each terminal and chassis should be infinite.

3. Diode assembly with 500 mA fuse (Fig. 19)

(A) Isolate the diode assembly from the circuit by disconnecting the leads.

(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

NOTE: If 500 mA fuse is open, replace as diode assembly with 500 mA fuse.

4. Magnetron (Fig. 20)

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron

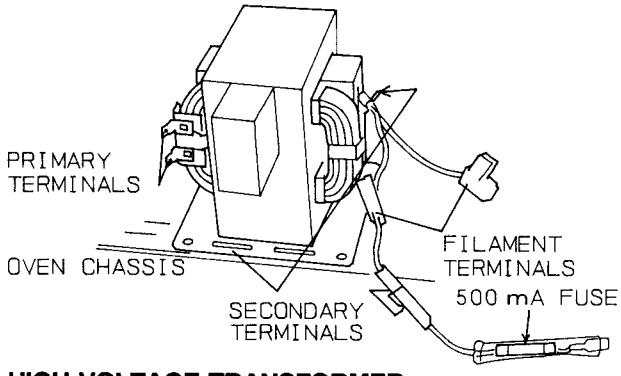
(A) Isolate magnetron from the circuit by disconnecting the leads.

(B) A continuity check across magnetron filament terminals should indicate one ohm or less.

(C) A continuity check between each filament terminal and magnetron case should read open.

5. Membrane key board (Membrane switch assembly) (Fig. 21)

Check continuity between switch terminals, by pressing an appropriate pad on the key board.
The contacts assignment of the respective pads on the key board is as shown in **Fig. 21**.



HIGH VOLTAGE TRANSFORMER

Fig. 18

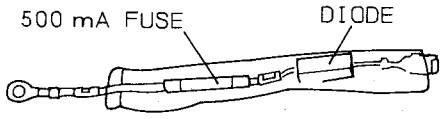
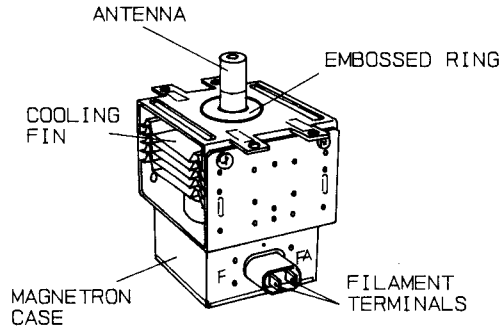


Fig. 19



MAGNETRON

Fig. 20

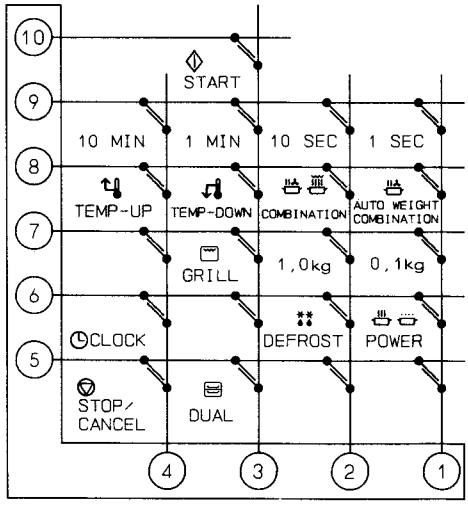


Fig. 21

6. Low voltage transformer

Check the voltage of secondary winding of the low voltage transformer (L.V.T.). The normal voltages of the L.V.T. with no load should read as shown in **Fig. 23**.
When measuring the voltage of L.V.T., measure the voltage between each pin of the L.V.T. with the connector (CN1) unplugged.

CAUTION

A 220V AC is present at the primary circuit of the low voltage transformer. When checking the secondary voltage of low voltage transformer, be cautious of possible shock hazard.

PIN NO. OF L.V.T	SECONDARY VOLTAGE
S1 - S2	AC 16.5V ± 10%
S3 - S4	AC 2.66V ± 10%

Primary voltage·····AC 220V

Fig. 23

7. To test the oven temp sensor thermistor

This sensor monitors the heat produced by the heater circuit and maintains the oven temperature the user had selected. Normal room temperature, especially in a kitchen can vary anywhere from 10°C to 32°C. The reading across the oven sensor thermistor should be within 360K ohm to 800K ohm when read in an area within the 10°C to 32°C room temperature range.
If the resistance reading is out of the range stated here, the sensor is defective and must be replaced.

NOTE 1: When measuring resistance disconnect the 5-pin connector (CN3) from the DPC otherwise a false reading may be indicated.

NOTE 2: If checking an oven sensor thermistor just after the microwave oven has been operating, the sensor of course won't be room temperature. In this case the sensor must be removed and allowed to cool down to the 10°C to 32°C range.

MEASUREMENTS AND ADJUSTMENTS

1. Adjustment of safety switch A (SW. 2)

(A) When mounting the safety switch A to the door hook A, mount the safety switch A to the door hook A as shown in **Fig. 24.**

NOTE: **No specific adjustment during installation of safety switch A to the door hook A is necessary.**

(B) When mounting the door hook A assembly to the oven assembly, be sure to adjust the door hook A assembly by moving in the arrow direction so that the oven door will not have any play in it. **(Fig. 25)**
Check for play in the door by pulling the door.
Make sure that the latch key positions correctly during adjustment. Also make sure that the latch key moves smoothly after adjustment is completed. Securely tighten the screws holding the door hook assembly to the oven assembly.

2. Adjustment of safety switch B (SW. 1) and short switch (SW. 3)

(A) When mounting the safety switch B and short switch to the door hook B assembly, mount the safety switch B and short switch to the door hook B assembly as shown in **Fig. 26.**

NOTE: **No specific adjustment during installation of safety switch B and short switch to the door hook B is necessary.**

(B) When mounting the door hook B assembly to the oven assembly, adjust the door hook B by moving it in the direction of arrow in **Fig. 25** so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch key moves smoothly after adjustment is completed. Securely tighten the screws holding the door hook B assembly to the oven assembly.

3. Measurement of microwave output

The power output of the magnetron can be determined by performing a simple water heating test as described below.
Necessary Equipment:
*Two 1 litre beakers *Glass thermometer
*Wrist watch or stopwatch

NOTE: **Check the line voltage under load. Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurate as possible.**

(A) Fill each beaker with exactly one litre of tap water. Stir the water using the thermometer and record each beaker's temperature (recorded as T1A and T1B).

(B) Place both beakers on the center of glass cook plate.
Set the oven for High power and heat it for exactly two minutes.

(C) Stir the water again and read the temperature of each beaker (recorded as T2A and T2B).

(D) Obtain the temperature rise by using the following formula:

$$\text{Average temperature rise} = \frac{(T2A + T2B) - (T1A + T1B)}{2}$$

The normal temperature rise for these models should be 7.7° to 9.9°C at the "High" power selection with the oven operating at the specified line voltage.

(E) To obtain the power output, multiply the average temperature rise by 70.
Example:
If you find average temperature rise of 8.5°C, the ovens output is $8.5 \times 70 = 595$ watts.

NOTE: **This test may be conducted by heating one litre of water for one minute if only one beaker is available. In this instance you will find the temperature rise being smaller than the above specifications due to the microwave absorption characteristic. You may judge the magnetron to be normal when the temperature rise is greater than 6.5°C.**

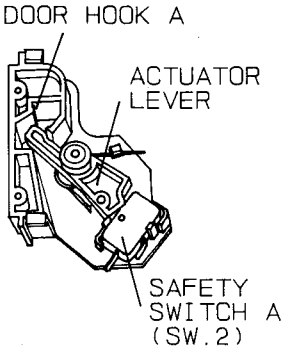
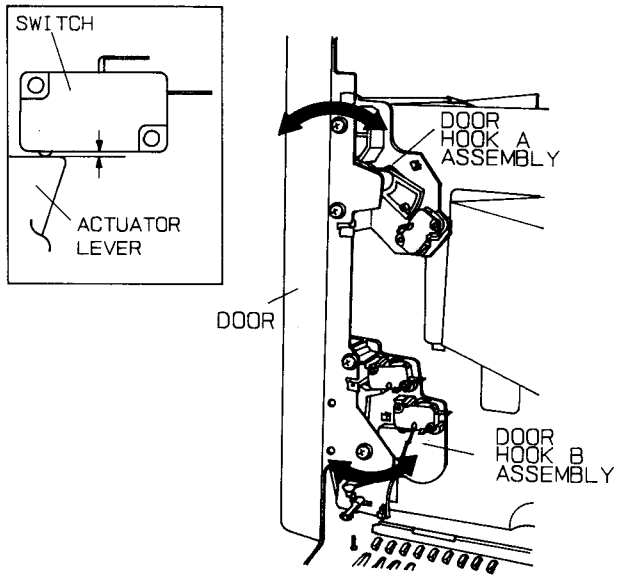


Fig. 24



Please confirm that the gap between the switch housing and switch actuator levers is no more than 1mm when the door is closed.

Fig. 25

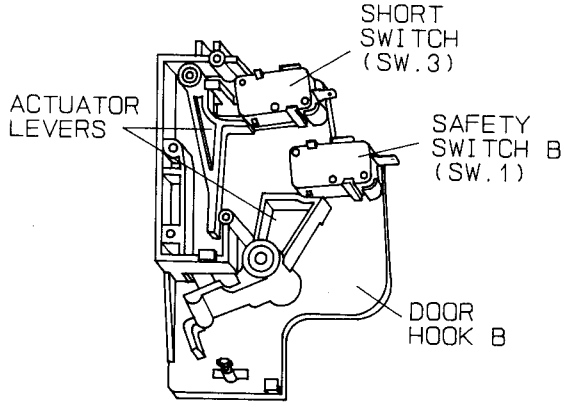


Fig. 26

TROUBLESHOOTING GUIDE

CAUTION

1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge high voltage capacitor. (See pages 15 through 19.)
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
5. Do not touch any parts of the circuitry on the digital programmer circuit since static electric discharge may damage this control panel.
   Always touch yourself to ground while working on this panel to discharge any static charge in your body.
6. When disconnecting a plastic connector from a terminal, you must hold the plastic connector instead of the lead wire and then disconnect it, otherwise lead wire may be open or the connector cannot be removed.
7. A 220V AC is present at the shaded area ⬚ of the digital programmer circuit (Terminals of power relays 1, 2, 3, 5, 6, 8 and Triac etc.).
   When troubleshooting, be cautious of possible electrical shock hazard.

First of all operate the microwave oven following the correct operating procedures described on pages 34 ~ 39 in order to find the exact cause of any trouble.

[TROUBLE 1] The following visual conditions indicate a probable defective digital programmer circuit (D.P.C.) or membrane key board (membrane switch assembly).

A. In case of following conditions, D.P.C. is defective.

1. Incomplete segments.
   (A) Segments missing.
   (B) Partial segments missing.
   (C) Digit flickering other than normal fluorescent slight flickering.
   (D) Colon does not turn on or does not blink when the clock pad is tapped.
2. A distinct change in the brightness of one or more numbers in the display.
3. One or more digits in the display not on when they should be.
4. Wrong or no power indicator light for power level selected.
5. Specific numbers (for example 2 or 3) will not display.
6. Display does not count down with time cooking or when using display as a timer.
7. Display does not count up with clock operation.
8. Oven is programmable and cooks normally but no display shows.
   NOTE: Check 200 mA/FUSE 4 also.
9. Display obviously jumps in time while counting down or up.
10. Display counts down noticeably too fast while cooking.
11. Display cannot shift from the first stage cooking to the second stage cooking even though Two Stage Cooking is programmed.
12. Display does not stop counting down with time cooking even when Stop/Cancel Pad is tapped.
13. Time of day does not reappear when cooking is finished.

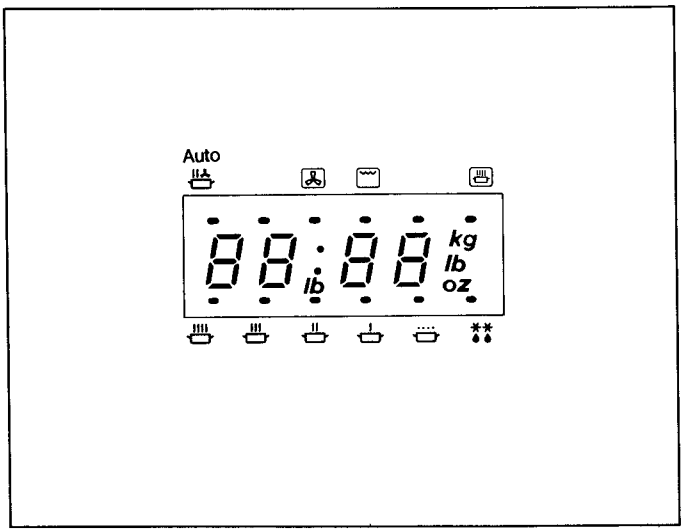


Fig. 27

B. In case of following conditions, either D.P.C. or membrane switch is defective.

CHECK	RESULT	CAUSE	REMEDY
1. Clock set cannot be programmed at all.			
Check continuity of membrane switch with clock pad tapped. between terminals 6 and 4	No continuity	Defective membrane switch	Replace
	Continuity	Defective DPC	Replace
2. Some inputs cannot be programmed.			
Check continuity of membrane switch (Refer to page 24 for the test procedures of membrane switch)	Some pads have no continuity	Defective membrane switch	Replace
	Normal	Defective DPC	Replace
3. Display indicates a number or figure different from one touched. Random programming when pressing other than touch pads or without pressing any at all. (intermittently)			
Replace membrane switch and recheck	Everythings works as specified	Defective membrane switch	Replace
	Still have trouble	Defective DPC	Replace

[TROUBLE 2] Oven does not operate at all; Display window does not indicate any figures and no program of any pads will be accepted.

1. 16A fuse in the unit has been blown.

CHECK	RESULT	CAUSE	REMEDY
Check the continuity of noise preventing capacitors	Continuity	Defective noise preventing capacitor(s)	Replace
	No continuity	Poor insulation of components located in primaly circuit	Replace

NOTE: When interlock monitor circuit functions, a 1.25A fuse blows and 16A fuse should remain normal.

2. Home circuit breaker is cut off.

CHECK	RESULT	CAUSE	REMEDY
Check the continuity of inrush resistor	No continuity	Defective inrush resistor	Replace
Check DC voltage being applied to power relay F (RY6) coil	0 volts	Defective DPC	Replace
NOTE 2	Approx. 18V DC	Faulty contacts of power relay F (RY6) or open relay coil	Replace

NOTE 2: Power relay F (RY6) is normally energized only for 1 second just before functioning power relay E (RY5) to prevent from opening of circuit breaker due to a momentary surge current.

3. 1.25A fuse has been blown.

CHECK	RESULT	CAUSE	REMEDY
Check the continuity of short switch (C-NC) with door closed	Continuity	Malfunction of short switch or improper door mounting	Repair or replace
Check the continuity of safety switch B (SW1) with door open	Continuity	Shorted contacts of safety switch B (SW1)	Replace
Check the continuity of high voltage capacitor	Continuity	Defective high voltage capacitor	Replace
Disconnect one lead wire connected between high voltage transformer and high voltage capacitor and operate the unit	1.25A fuse blows again	Defective high voltage transformer	Replace

4. Outlet has proper voltage. 16A Fuse is not open.

CHECK	RESULT	CAUSE	REMEDY
Check continuity of thermal cutouts (SW. 4, SW. 5)	No continuity	Defective thermal cutout	Replace
Check continuity of power supply cord	No continuity	Open power supply cord	Replace
Disconnect lead wire of L.V.Transformer primary side (CN1B) and check the continuity	Infinity	Open winding of low voltage transformer	Replace
	Approx. 140~180Ω (Normal)	Defective DPC	Replace or repair D.P.C.
Check 630mA/FUSE 3 on mini P.C.B.	Fuse open	Defective D.P.C.	Replace or repair D.P.C.

[TROUBLE 3] No microwave oscillation even though fan motor rotates.

	CHECK	RESULT	CAUSE	REMEDY
1.	Check if 220 V AC is applied to the primary side of high voltage transformer	Yes, 220 V is applied	Please proceed to troubleshooting number 2 of this TROUBLE	
		No		
	Check DC voltage being supplied to power relay E (RY 5) coil (NOTE 2) (See **Fig. 28**)	0 volts	Defective digital programmer circuit	Replace or repair D.P.C.
		Normal	Faulty contacts of power relay E (RY. 5) or open relay coil	Replace

NOTE 2: Connect DC volt meter between terminals 5 and 6 of power relay E (RY. 5). (See **Fig. 28**)
Set power at High and set any time.
Normal digital programmer circuit should read approx. 18V DC continuously.

CAUTION

A 220V AC is present at the shaded area ⁞⁞⁞ of the digital programmer circuit (Terminals of power relays 1, 2, 3, 5, 6, 8 and Triac etc.).
When troubleshooting, be cautious of possible electrical shock hazard.

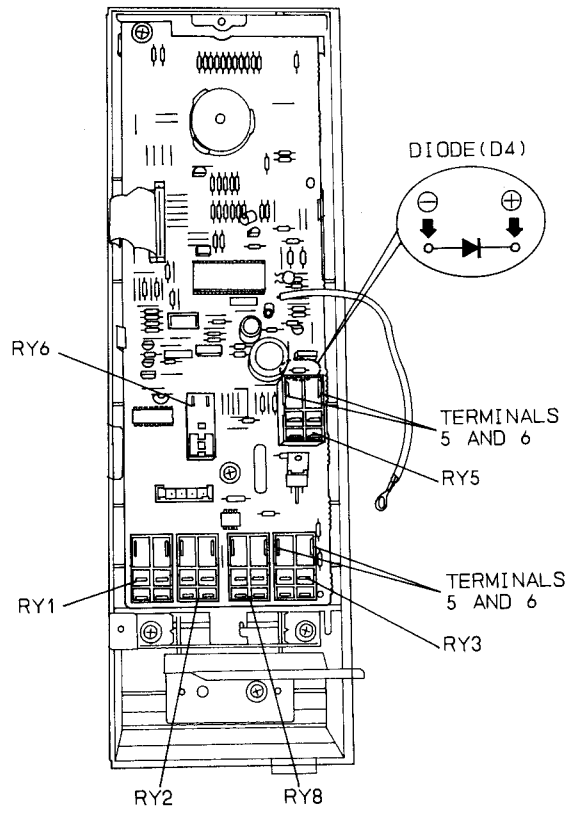
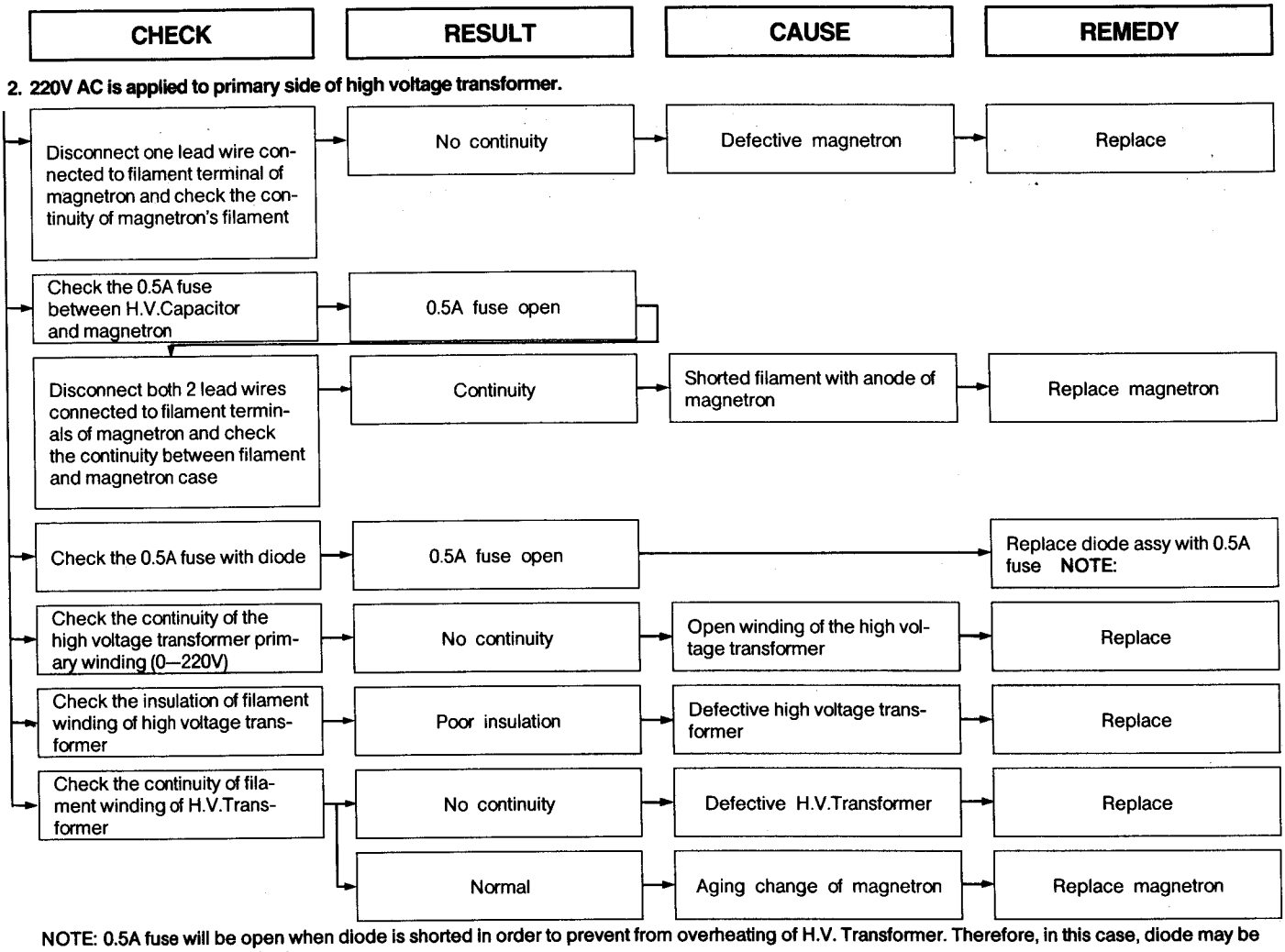
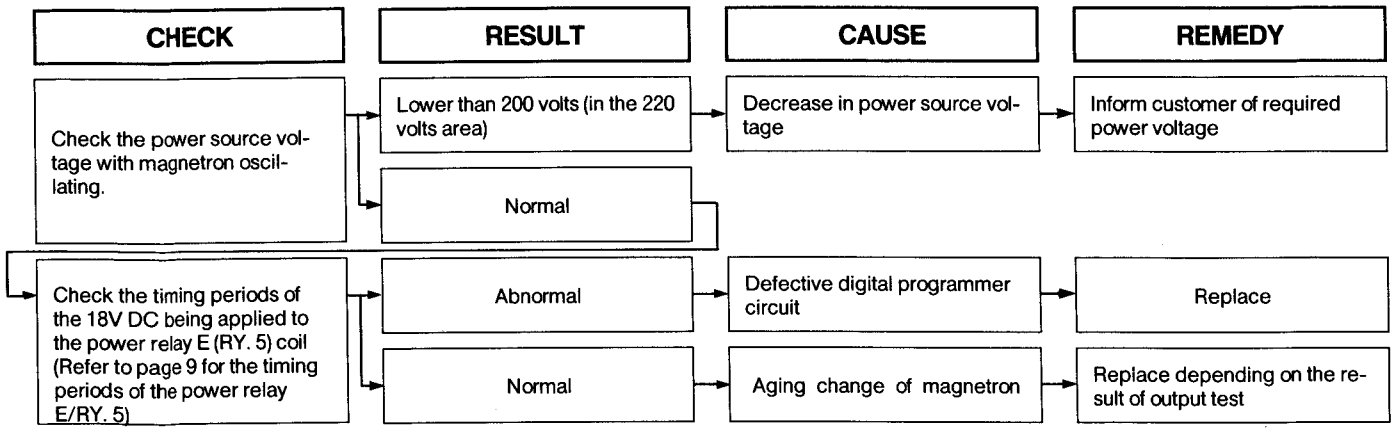


Fig. 28

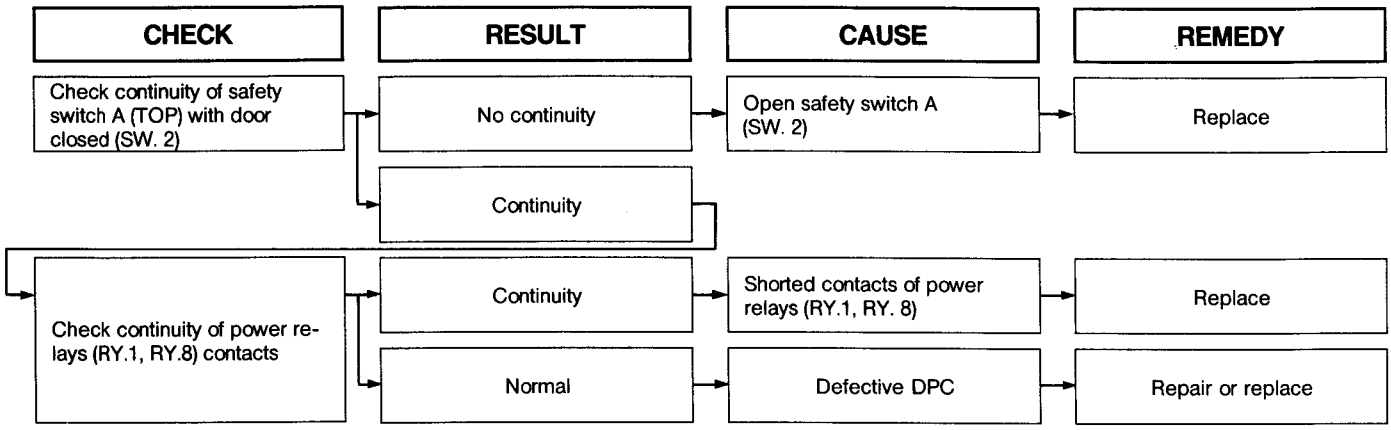

CHECK
RESULT
CAUSE
REMEDY
2. 220V AC is applied to primary side of high voltage transformer.
Disconnect one lead wire connected to filament terminal of magnetron and check the continuity of magnetron's filament
No continuity
Defective magnetron
Replace
Check the 0.5A fuse between H.V.Capacitor and magnetron
0.5A fuse open
Disconnect both 2 lead wires connected to filament terminals of magnetron and check the continuity between filament and magnetron case
Continuity
Shorted filament with anode of magnetron
Replace magnetron
Check the 0.5A fuse with diode
0.5A fuse open
Replace diode assy with 0.5A fuse NOTE:
Check the continuity of the high voltage transformer primary winding (0—220V)
No continuity
Open winding of the high voltage transformer
Replace
Check the insulation of filament winding of high voltage transformer
Poor insulation
Defective high voltage transformer
Replace
Check the continuity of filament winding of H.V.Transformer
No continuity
Defective H.V.Transformer
Replace
Normal
Aging change of magnetron
Replace magnetron

NOTE: 0.5A fuse will be open when diode is shorted in order to prevent from overheating of H.V. Transformer. Therefore, in this case, diode may be possibly shortcircuited.

[TROUBLE 4] Microwave output power is low. First of all, check if output is really low by following "Measurement of microwave output" on page 26.


CHECK
RESULT
CAUSE
REMEDY
Check the power source voltage with magnetron oscillating.
Lower than 200 volts (in the 220 volts area)
Decrease in power source voltage
Inform customer of required power voltage
Normal
Check the timing periods of the 18V DC being applied to the power relay E (RY. 5) coil (Refer to page 9 for the timing periods of the power relay E/RY. 5)
Abnormal
Defective digital programmer circuit
Replace
Normal
Aging change of magnetron
Replace depending on the result of output test

[TROUBLE 5] Oven lamp and turntable turn on when power supply cord is plugged into wall receptacle.

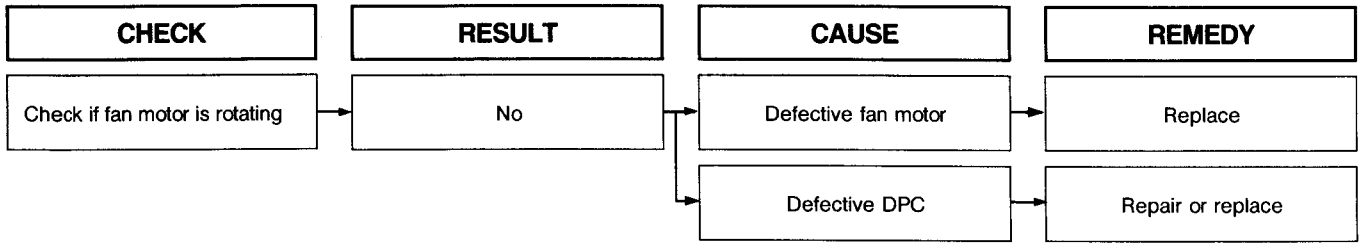


[TROUBLE 6] Magnetron oscillates for 1~5 minutes after start pad is tapped, then stops all functions of the oven. (Fan motor does not turn on.)

REASON: During first 1~5 minutes, magnetron is oscillates but the fan motor does not rotate, this causing the magnetron to heat up and open the magnetron thermal cutout.

WARNING

A high voltage is generated in the secondary winding of the high voltage transformer and also high voltage circuit, even though fan motor does not rotate. Be very cautious for high voltage when troubleshooting.



[TROUBLE 7] Microwave cooking program works normally, but convection cooking and/or grill cooking programs do not.

NOTE: Refer to cooking pattern of convection cooking (**Fig. 4**) and/or grill cooking (**Fig. 5**)

1. Convection heater does not heat at all.

CHECK	RESULT	CAUSE	REMEDY
Disconnect 2 lead wires from convection heater terminals and check continuity of the heater	No continuity	Open heater	Replace
	Approx. 46Ω (Normal)		
Check DC voltage being applied to power relay C RY. 3) coil (terminals 5 and 6) (See **Fig. 28**)	Approx. 18V DC	Faulty contacts of power relay C (RY. 3) or open relay coil	Replace
	0V	Defective D.P.C.	Repair or replace

2. Grill heater does not heat at all.

CHECK	RESULT	CAUSE	REMEDY
Disconnect 2 lead wires from grill heater terminals and check continuity of the heater	No continuity	Open heater	Replace
	Approx. 37Ω (Normal)		
Check DC voltage being applied to power relay B (RY. 2) coil (terminals 5 and 6) (See **Fig. 28**)	Approx. 18V DC	Faulty contacts of power relay B (RY. 2) or open relay coil	Replace
	0V	Defective D.P.C.	Repair or replace

[TROUBLE 8] Combination cooking is not working in correct order

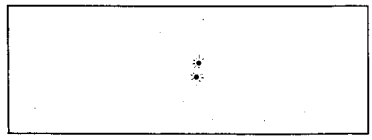
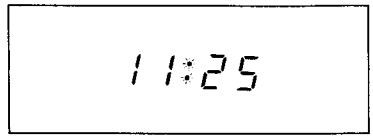
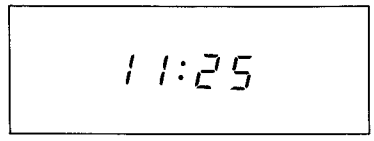
CHECK	RESULT	CAUSE	REMEDY
Check timing period of DC voltage being applied to power relay 2, 3 and 5 (Refer to the description of combination cooking and **Fig. 6B** on page 12.	Abnormal	Defective DPC	Repair or replace

[TROUBLE 9] "FF FF" appears in display window when convection, grill or combination cooking.

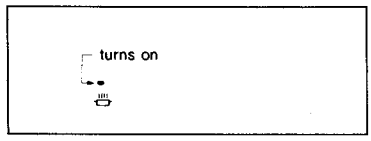
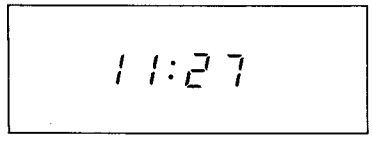
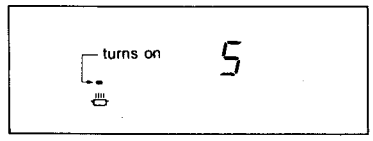
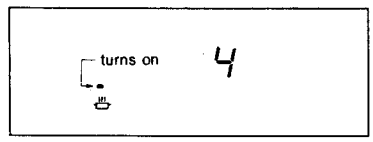
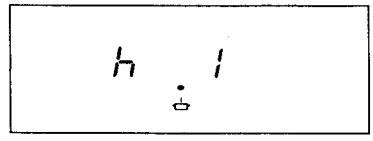
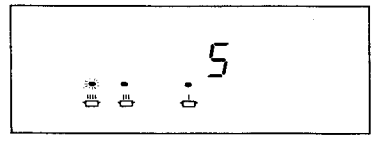
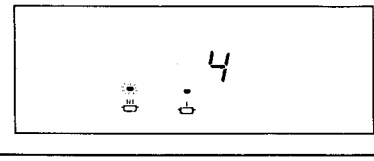
CHECK	RESULT	CAUSE	REMEDY
Check continuity of oven temp sensor with CN3 connector unplugged.	0Ω or infinity	Short or open oven temp sensor	Replace
	loose connection of CN3		Repair
	Normal	Defective DPC	Repair or replace

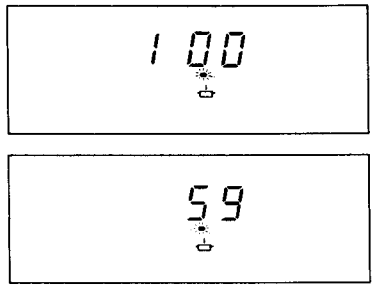
DIGITAL PROGRAMMER CIRCUIT TEST PROCEDURE

1. Clock Setting

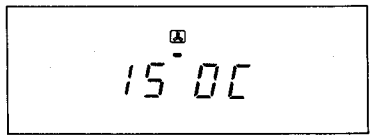
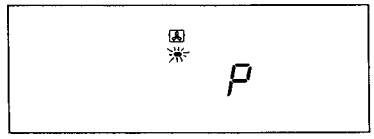
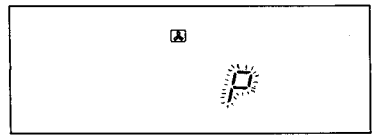
STEP	OPERATION	FUNCTION	DISPLAY
1	Plug the power supply cable into wall receptacle.	• Colon starts blinking.	
2	Enter time of day (TOD) by tapping appropriate number pads. Example : To Set 11 : 25 • Tap 10 min pad once • Tap 1 min pad once • Tap 10 sec pad twice • Tap 1 sec pad 5 times	• Numbers tapped are displayed in the display window. • Colon keeps blinking.	
3	Tap Clock Pad.	• Colon stops blinking and stays on. • TOD has now been registered into the digital programmer circuit and will count up by minutes.	

2. Time Cooking/Three Stage Cooking

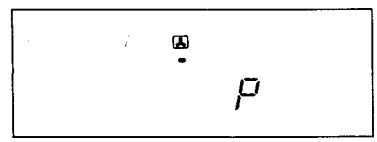
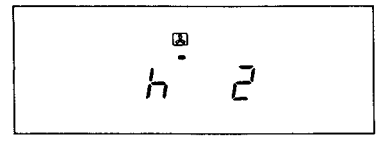
STEP	OPERATION	FUNCTION	DISPLAY
1	Place a water load in the oven.		
2	Tap Power Pad.(Example : Tap power select pad once for high power setting.)	• Clock time disappears. • "HIGH" ( ) power indicator light turns on.	
3	Tap Stop/Cancel Pad.	• The display window will show TOD again.	
4	Select "HIGH" ( ) power and set for 5 seconds by tapping the appropriate pads. (1st stage)	• Clock time disappears. • "HIGH" ( ) Power indicator light turns on. • Display window shows "5".	
5	Set MEDIUM ( ) power for 4 seconds. (2nd stage)	• First stage cooking time "5" and "HIGH" ( ) power indicator light disappear. • "MEDIUM" ( ) power indicator light turns on. • Display window shows "4".	
6	Set SIMMER ( ) power for 1 minute. (3rd stage)	• Second stage cooking time "4" and "MED" ( ) power indicator light disappear. • "SIMMER" ( ) power indicator light turns on. • Display window shows "h 1". **NOTE: When SIMMER power is selected, h meaning hour appears in display window and cooking time is shown in hours and minutes.**	
7	Tap Start Pad. (1st stage)	• Oven light turns on. • Microwave activity starts. • Third stage cooking time disappears. • SIMMER power indicator light stays on. • HIGH and MEDIUM power indicator lights turn on. • Turntable begins to rotate. • First stage cooking time "5" appears and counts down by seconds. • "HIGH" (1st stage) power indicator light begins to blink.	
8	(2nd stage)	• After completing 1st stage program, oven automatically switches to 2nd stage. • HIGH (1st stage) power indicator light turns off. • MEDIUM (2nd stage) power indicator light starts to blink. • SIMMER (3rd stage) power indicator light remains on. • Display window indicates "4" and starts counting down by seconds.	

STEP	OPERATION	FUNCTION	DISPLAY
9	(3rd stage)	• After completing 2nd stage program, oven automatically switches to 3rd stage. • MEDIUM (2nd stage) power indicator light turns off. • SIMMER (3rd stage) power indicator light starts to blink. • Display indicates "1 00" and starts counting down by seconds.	
10	When third stage cooking ends, oven beeps five times and shuts off automatically.		• TOD appears in display window.

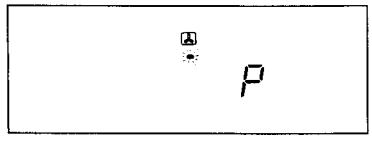
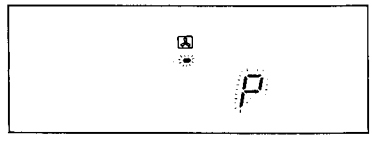
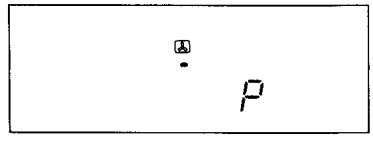
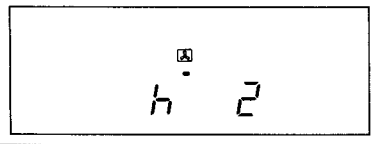
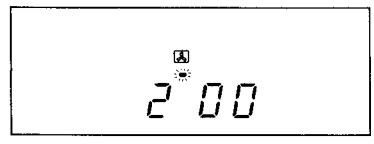
3. Convection Cooking (Preheating)

STEP	OPERATION	FUNCTION	DISPLAY
1	Be sure to place only the white glass ceramic tray in the oven.		
2	Tap Temperature Pad, [+] or [−], to set cooking temperature from 40℃ up to 250℃. Set to 150℃.	• Clock time disappears. • Convection indicator light turns on. • "150C" appears in the display window.	
3	Tap Start Pad.	• Cooking temperature disappears. • Pre-heat indicator light "P" turns on. • Oven lamp turns on. • Turntable begins to rotate. • Convection indicator light blinks.	
		• When preheating is completed, oven beeps three times. • Pre-heat indicator starts blinking. • Oven lamp stays on and turntable continues to rotate.	
4	Proceed to paragraph 4.		

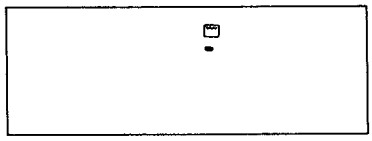
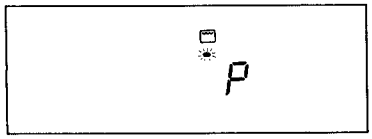
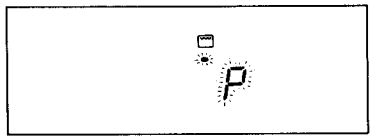
4. Convection Cooking (Time cooking) ([fan])

STEP	OPERATION	FUNCTION	DISPLAY
1	After completion of preheating, be sure to open the door.	• When door is opened, turntable stops rotating. • Convection indicator and pre-heat indicator "P" stop blinking and stay on.	
2	Close the door and set Convection cooking time for 2 min.	• Convection cooking time "h 2" appears in the display window.	
3	Tap Start Pad.	• Oven lamp turns on. • Turntable begins to rotate. • Convection cooking begins. • Convection cooking time begins to count down. • Convection indicator light starts to blink.	
		• When convection cooking is completed, oven beeps five times and shuts off automatically. • Turntable stops rotating. • Convection indicator light turns off. • T.O.D. appears in the display window.	

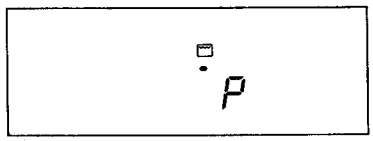
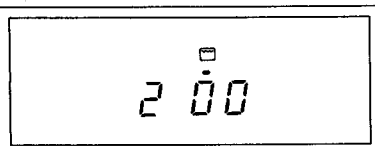
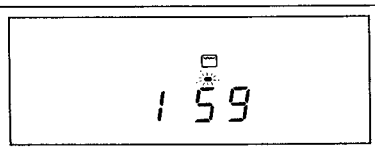
5. Convection Cooking with Dual Shelves ( )

STEP	OPERATION	FUNCTION	DISPLAY
1	Be sure to place only the white glass ceramic tray in the oven.		
2	Tap Dual-Shelf Pad. And tap Temperature Pad, to set Pre-heat temperature, for Dual-Shelf cooking. Set to 150℃.	• Clock time disappears. • Convection indicator light turns on. • Desired oven temperature will be shown, in display window.	
3	Tap Start Pad.	• Oven lamp turns on. • Turntable begins to rotate. • Convection indicator light starts to blink. • Pre-heat indicator light "P" turns on.	
		• When preheating is completed, oven beeps three times. • Fan motor begins to rotate. • Pre-heat indicator light "P" starts to blink. • Oven lamp stays on and turntable continues to rotate.	
4	After completion of preheating, be sure to open the door.	• When door is opened, turntable stops rotating. • Pre-heat indicator light "P" and convection indicator stay on.	
5	Close the door and set Convection cooking time for 2 min.	• Convection cooking time "h 2" appears in the display window. • Convection indicator light remains on.	
6	Tap Start Pad.	• Oven lamp turns on. • Turntable begins to rotate. • Convection cooking begins. • Convection cooking time begins to count down. • Convection indicator light starts to blink.	
		• When convection cooking is completed, oven beeps five times and shuts off automatically. • Turntable stops rotating. • Convection indicator light turns off. • T.O.D. appears in the display window.	

6. Grill Cooking (Preheating)

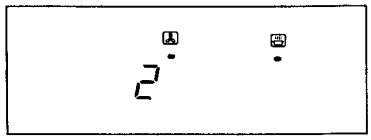
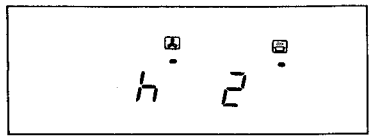
STEP	OPERATION	FUNCTION	DISPLAY
1	Be sure to place only the white glass ceramic tray in the oven.		
2	Tap Grill Pad.	• Clock time disappears. • Grill indicator light turns on.	
3	Tap Start Pad.	• Pre-heat indicator light "P" turns on. • Grill indicator light starts to blink. • Oven lamp turns on. • Turntable begins to rotate.	
		• When Pre-heat is completed, oven beep three times. • Pre-heat indicator light starts blinking. • Grill indicator light continues to blink. • Fan motor begins to rotate. • Oven lamp stays on and turntable continues to rotate.	
4	Proceed to paragraph 7.		

7. Grill Cooking (Time Cooking) (⌇⌇)

STEP	OPERATION	FUNCTION	DISPLAY
1	After completion of preheating, be sure to open the door.	• When door is opened, turntable stops rotating. • Grill indicator light and Pre-heat indicator light stay on.	
2	Close the door and set Grill cooking time for 2 min.	• Pre-heat indicator light disappears. • Grill indicator light remains on. • Grill cooking time "2 00" appears in display window.	
3	Tap Start Pad.	• Grill cooking begins. • Turntable rotates. • Oven lamp turns on. • Grill indicator light begins to alternately blink and glow. • Grill time counts down second by second.	
		• When Grill cooking is completed, oven beeps five times and shuts off automatically. • Turntable stops rotating. • Grill indicator light turns off. • T.O.D. appears in the display window.	

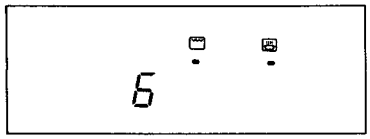
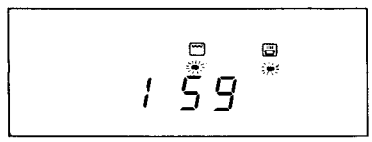
8. Combination Cooking ( )

(1. Microwave & Convection Combination — Category 1, 2, 3, 4, 5)

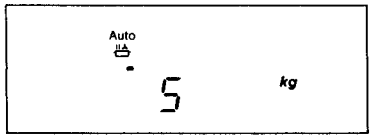
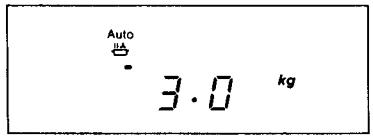
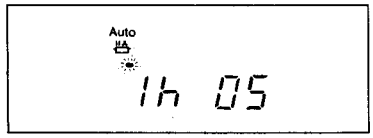
STEP	OPERATION	FUNCTION	DISPLAY
1	• Pour adequate water in a oven glassware or ceramic utensil and place the utensil on the white glass ceramic tray in the oven. • Tap Combination Pad twice.	• Clock time disappears. • Microwave indicator light and Convection indicator light turn on. • Combination category number "2" appears in the display window.	
2	Set cooking time for 2 min.	• Category number "2" disappears and Combination Cooking time "h 2" appears in the display window. • Microwave indicator light and Convection indicator light remain on.	
3	Tap Start Pad.	• Combination cooking begins. • Oven lamp turns on. • Turntable begins to rotate. • Combination cooking time starts counting down. • Microwave indicator light and Convection indicator light start blinking.	
		• When combination cooking is completed, oven beeps five times and shuts off automatically. • Turntable stops rotating. • Oven lamp and indicator light turn off. • T.O.D. appears in display window.	

9. Combination Cooking ( )

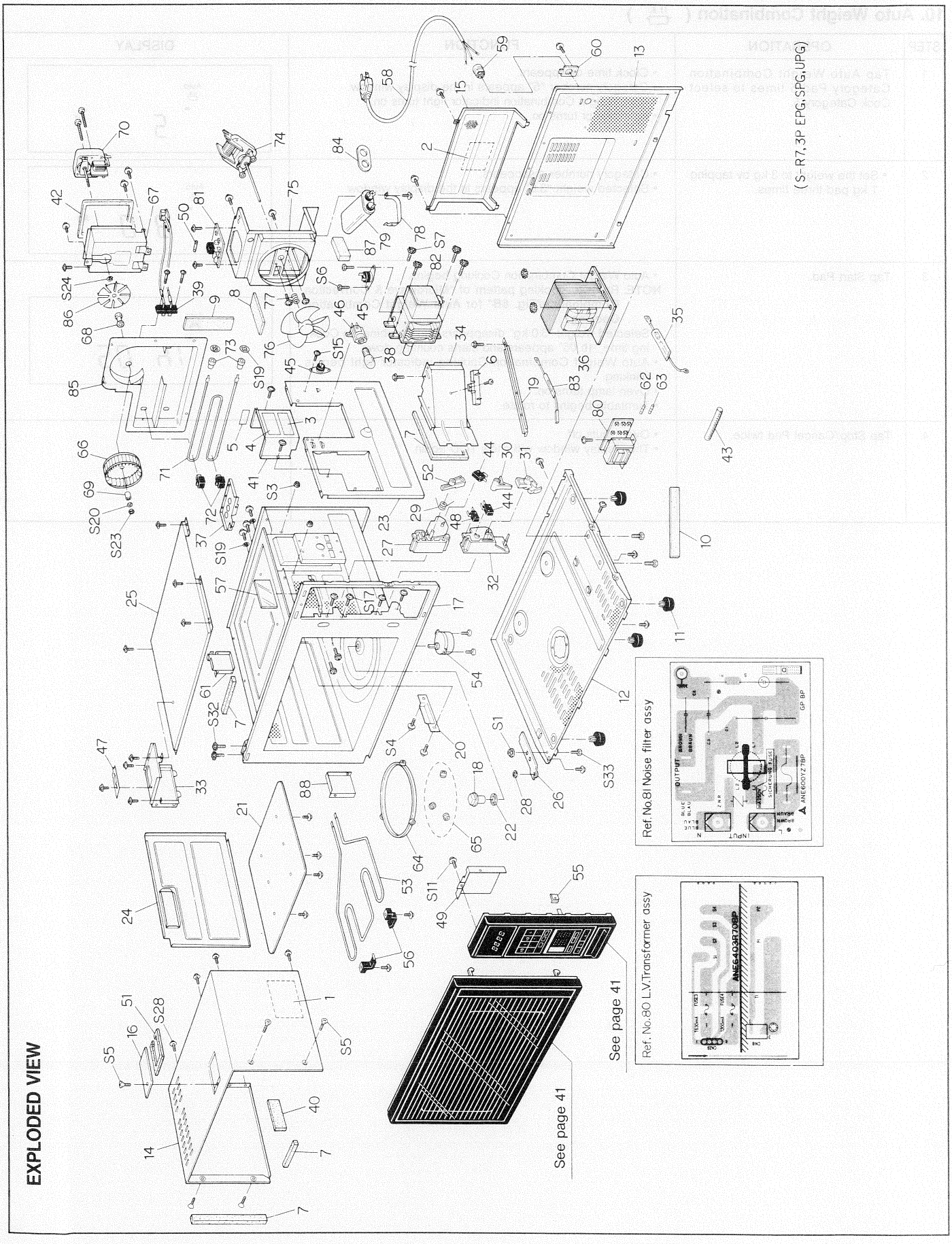
(2. Microwave & Grill Combination—Category 6)

STEP	OPERATION	FUNCTION	DISPLAY
1	• Pour adequate water in a oven glassware or ceramic utensil and place the utensil on the white glass ceramic tray in the oven. • Tap Combination Pad 6 times.	• Clock time disappears. • Microwave power indicator light and Grill indicator light turn on. • Combination category number "6" appears in the display window.	
2	Set cooking time for 2 min.	• Category number "6" disappears and Combination Cooking time "2 00" appears in the display window. • Microwave power indicator light and Grill indicator light remain on.	
3	Tap Start Pad.	• Combination cooking begins. • Oven lamp turns on. • Turntable begins to rotate. • Combination cooking time starts counting down. • Microwave power indicator light and Grill indicator light start blinking.	
		• When combination cooking is completed, oven beeps five times and shuts off automatically. • Turntable stops rotating. • Oven lamp and indicator light turn off. • T.O.D. appears in display window.	

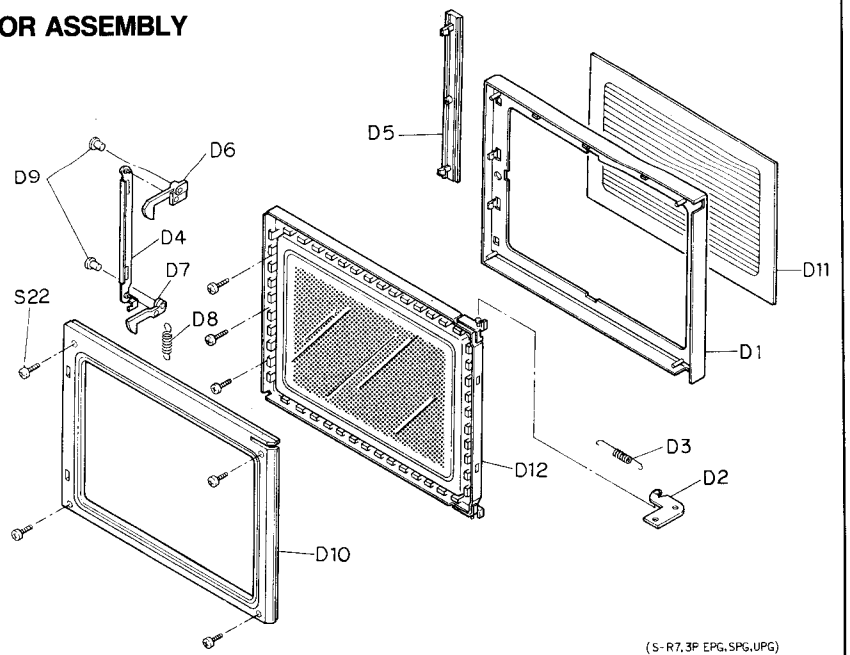
10. Auto Weight Combination ( )

STEP	OPERATION	FUNCTION	DISPLAY
1	Tap Auto Weight Combination Category Pad 5 times to select Cook Category 5.	• Clock time disappears. • Category number "5" appears in the display window. • Auto Weight Combination indicator light turns on. • kg indicator turns on.	
2	• Set the weight to 3 kg by tapping 1 kg pad three times.	• Category number disappears. • Selected weight "3.0" appears in the display window.	
3	Tap Start Pad.	• Auto Weight Combination Cooking begins. **NOTE: Refer to cooking pattern of "Microwave & Convection Combination/Fig. 6B" for Auto Weight Combination Cooking.** • Selected weight "3.0 kg" disappears and Combination Cooking time "1h 05" appears and starts counting down. • Auto Weight Combination Cooking indicator light begins blinking. • Oven lamp turns on. • Turntable begins to rotate.	
4	Tap Stop/Cancel Pad twice.	• Oven shuts off. • The display window will show TOD again.	

EXPLODED VIEW AND PARTS LIST

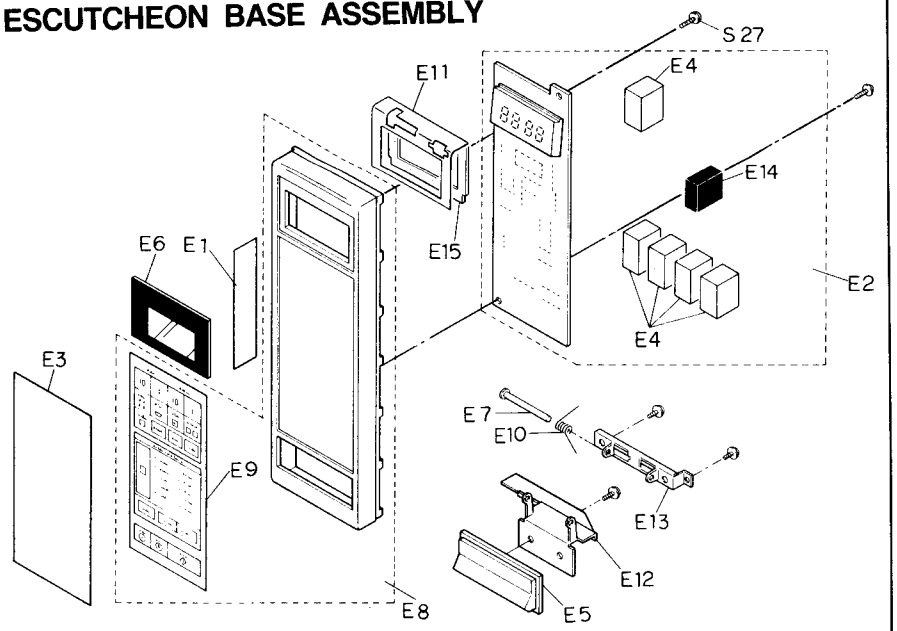


DOOR ASSEMBLY



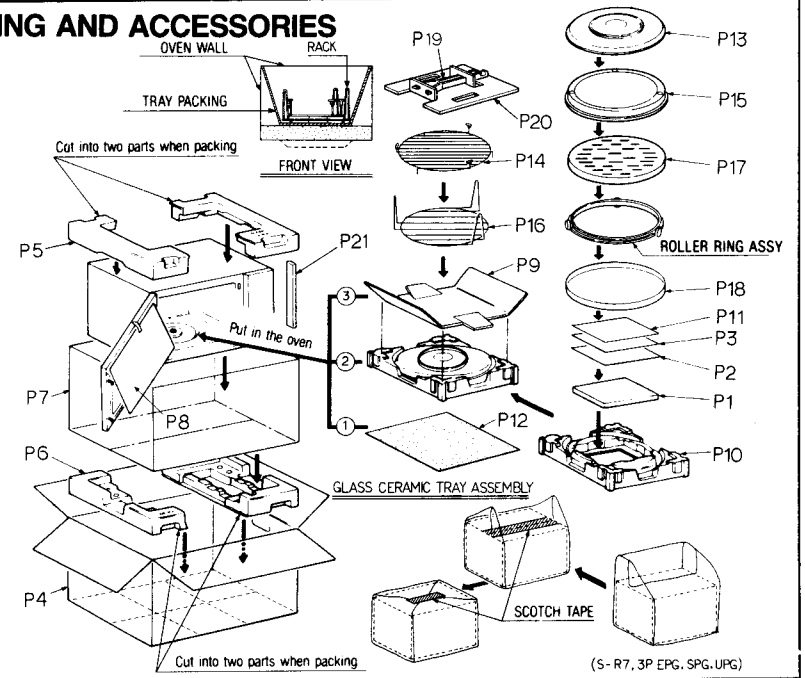
(S-R7, 3P EPG, SPG, UPG)

ESCUTCHEON BASE ASSEMBLY



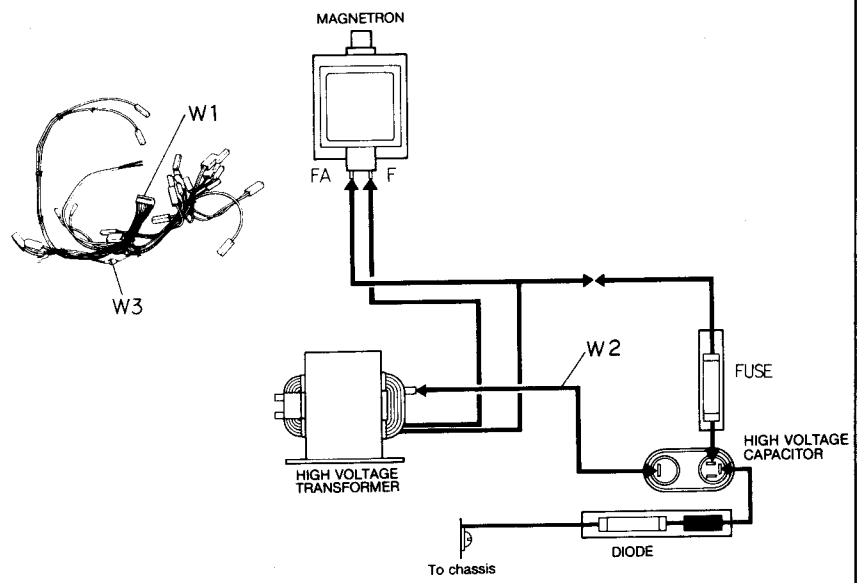
(S-R7, 3P EPG, SPG, UPG)

PACKING AND ACCESSORIES



(S-R7, 3P EPG, SPG, UPG)

WIRING MATERIAL



(S-R7, 3P EPG, SPG, UPG)

PARTS LIST (NE-972, NE-973)

NOTE 1: When ordering replacement part(s), please use part number(s) shown in this parts list. Do not use description of the part.
2: Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
3: Alphabet marks in Remarks columns (i.e. EPG, SPG, etc) indicate parts applicable to only specified country models as follows.
EPG: For Continental Europe, SPG: For Scandinavian Countries, UPG: For France

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
1		ANE0001R70GP	Schematic diagram	1	
2		ANE0006Q50KP	Warning label	1	For EPG, UPG
		ANE0006K40SN	Warning label	1	For SPG
3		ANE0033Q50GS	Fuse label	1	
4		ANE0056Q50KP	High voltage label	1	For EPG, UPG
		ANE00567J0BP	High voltage label	1	For SPG
5		ANE0072Z70GP	Oven lamp label	1	
6		ANE690YQ50GN	Inrush resistor	1	(20W, 30Ω)
7		ANE000Z000AA	Cushion rubber A	3	
8		ANE0925000CE	Cushion rubber C	1	
9		ANE0925000AM	Cushion rubber C	1	
10		ANE0927000AM	Cushion rubber C	1	
11		ANE100FZ70BP	Rubber foot	4	
12		ANE1001Z70BP	Base	1	
13		ANE1004Z70BP	Back panel	1	
14		ANE1009Z70BP	Outer panel	1	For NE-972 (NOTE 4)
		ANE10093Q0BP	Outer panel	1	For NE-973 (NOTE 4)
15		ANE1058Z70BP	Back panel cover A	1	
16		ANE1060K50BN	Lamp cover	1	For NE-972
		ANE1060Y80GS	Lamp cover	1	For NE-973
17		ANE200AZ70BP	Oven	1	
18		ANE200YX00AP	Pulley shaft	1	
19		ANE2036Z70BP	Reinforce bracket B	1	
20		ANE2055Z70BP	Cover A	1	
21		ANE2144Z70BP	Upper panel B	1	
22		ANE2177X00AP	Washer	1	
23		ANE2236Z70BP	Right heater panel	1	
24		ANE2237Z70BP	Left heater panel	1	
25		ANE2278Z70BP	Upper heater panel	1	
26		ANE3007Z70BP	Lower hinge	1	
27		ANE30202L0AP	Door hook A	1	
28		ANE3081B60AP	Door hinge spacer	1	
29		ANE30972L0AP	Spring	1	
30		ANE31362A0AP	Hook spacer A	1	
31		ANE31372A0AP	Hook spacer B	1	
32		ANE32672L0AP	Door hook B	1	
33		ANE400KZ70BP	Exhaust guide	1	
34		ANE4025Z70BP	Air guide A	1	
35	⚠	ANE600AZ70BP	Diode assy	1	(Si) (NOTE 5)
36	⚠	ANE620AZ70GP	H.V.Transformer	1	
37		ANE2098Z70BP	Reinforce bracket	1	
38	⚠	ANE6030Z70GP	Oven lamp	1	(220V, 25W)
39		ANE605Y2L0AP	Oven temp sensor	1	With small P.C.B
40		ANE0927000AP	Cushion rubber C	1	
41		ANE6073Z70BP	Oven lamp cover	1	
42		ANE000Z000AB	Cushion rubber A	1	
43		ANE61392L0AP	Insulation tube	1	
44	⚠	ANE6142-F60	Switch	2	Safety switch A, B (V-15G-3C26)
45	⚠	ANE6145X00AP	Thermal cutout	2	
46	⚠	ANE61522Q0BP	Oven lamp socket	1	
47		ANE6156R70BP	Insulation panel A	1	
48	⚠	ANE61414F0AG	Switch	1	Short switch (V-15G-1C26)
49		ANE6219Z70BP	Insulation cover	1	
50	⚠	ANE6230P10GN	Fuse	1	(16A)
51		ANE000Z000AC	Cushion rubber A	1	
52		ANE62412L0AP	Lever	1	
53		ANE630HZ70GP	Grill heater	1	
54	⚠	ANE6326X70GP	Turntable motor	1	(4W)
55		ANE6408Z70BP	Washer	1	
56		ANE6418Z70BP	Heater support B	2	
57		ANE6437Z70BP	Glass plate	1	
58	⚠	ANE900CZ70GP	Power supply cord	1	For EPG, UPG
	⚠	ANE900CR70SP	Power supply cord	1	For SPG
59	⚠	ANE9027730GN	Cord bushing	1	
60		ANE9035X70GP	Cord stopper	1	
61		ANE2095Z70BP	Reinforce bracket	1	
62	⚠	XBA2C06TROKB	Fuse	1	(630mA)
63	⚠	XBA2C02TROKB	Fuse	1	(200mA)
64		ANE290D2L0AP	Roller ring assy	1	
65		ANE202K2L0AP	Roller B assy	1	(NOTE 6)
66		ANE2239-Y30	Circulation fan	1	
67		ANE401RZ70BP	Bracket	1	
68		ANE4161Z70BP	Fan spacer A	1	
69		ANE4162-Y30	Fan spacer B	1	
70		ANE4179Z70GP	Convection motor	1	
71		ANE630GZ70GP	Convection heater	1	
72		ANE6417Z70BP	Heater support A	2	
73		ANE6501K90AP	Holder C	2	
74	⚠	ANE400AL90QN	Fan motor	1	(25W)
75		ANE400RZ70BP	Fan motor bracket B	1	
76		ANE4008X00AP	Fan	1	
77		ANE4057-F50	Spring	1	
78		ANE6037X00AP	Capacitor bracket	1	
79	⚠	ANE6090B00AP	H.V.Capacitor	1	(1.0μF, AC2100V)
80	⚠	ANE692MR70GP	L.V.Transformer assy	1	
81	⚠	ANE692YR70EP	Noise filter assy	1	For EPG, SPG
	⚠	ANE692YZ70GP	Noise filter assy	1	For UPG
82	⚠	2M204-M1	Magnetron	1	
83	⚠	ANE606EZ70BP	Fuse	1	(0.5A)
84		ANE6239Z70BP	Insulation cap	1	
85		ANE203MZ70BP	Back heater panel	1	
86		ANE4159-Y30	Fan	1	
87		ANE0927000AE	Cushion rubber C	1	
88		ANE2094Z70BP	Reinforce bracket	1	

NOTE 4: Please order schematic diagram together.
5: This diode assy is supplied together with 500mA fuse.
6: When ordering the roller B assy, each three rollers and washers will be shipped.
When replacing the roller B, each three rollers and washers should be replaced at the same time.
Otherwise the glass ceramic tray may not turn smoothly.

DOOR ASSEMBLY

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
D1		ANE3001Z70BP	Door A assy	1	For NE-972
		ANE30013Q0BP	Door A assy	1	For NE-973
D2		ANE3006Z70BP	Upper hinge	1	
D3		ANE3009Z70BP	Door spring	1	
D4		ANE301HX00AP	Door key lever B	1	
D5		ANE3012Z70BP	Door handle	1	For NE-972
		ANE30123P0GP	Door handle	1	For NE-973
D6		ANE3018X00AP	Door key A	1	
D7		ANE3019X00AP	Door key B	1	
D8		ANE30212L0AP	Door key spring	1	
D9		ANE3056X00AP	Handle pin	2	
D10		ANE3085Z70BP	Door C	1	For NE-972
		ANE30853Q0BP	Door C	1	For NE-973
D11		ANE3146Z70BP	Door screen B	1	For NE-972
		ANE31463P0GP	Door screen B	1	For NE-973
D12		ANE302KZ70BP	Door E assy	1	

ESCUTCHEON BASE ASSEMBLY

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
E1		ANE0007R70GP	Name plate	1	For NE-972EPG, UPG
		ANE0007R70SP	Name plate	1	For NE-972SPG
		ANE00073P0GP	Name plate	1	For NE-973EPG, UPG
		ANE00073P0SP	Name plate	1	For NE-973SPG
E2	⚠	ANE603LR70UP	D.P.Circuit assy	1	(W/Component)
E3		ANE0334R70EP	Menu label	1	For NE-972EPG
		ANE0334R70SP	Menu label	1	For NE-972SPG
		ANE03343P0EP	Menu label	1	For NE-973EPG
		ANE03343P0SP	Menu label	1	For NE-973SPG
E4	⚠	AEAWG4W1T18T	Power relay	5	(G4W-1112TP-US)
E5		ANE8072X80GP	Door opening button	1	For NE-972
		ANE80722U0BP	Door opening button	1	For NE-973
E6		ANE8126R70BP	Smoke panel	1	For NE-972
		ANE81263P0GP	Smoke panel	1	For NE-973
E7		ANE8191X80AP	Cook lever shaft	1	
E8		ANE800LR70EP	Escutcheon base assy	1	For NE-972EPG With Membrane switch
		ANE800LR70SP	Escutcheon base assy	1	For NE-972SPG With Membrane switch
		ANE800LR70UP	Escutcheon base assy	1	For NE-972UPG With Membrane switch
		ANE800L3P0EP	Escutcheon base assy	1	For NE-973EPG With Membrane switch
		ANE800L3P0SP	Escutcheon base assy	1	For NE-973SPG With Membrane switch
		ANE800L3P0UP	Escutcheon base assy	1	For NE-973UPG With Membrane switch
E9		ANE6479R70EP	Membrane switch	1	For NE-972EPG
		ANE6479R70SP	Membrane switch	1	For NE-972SPG
		ANE6479R70UP	Membrane switch	1	For NE-972UPG
		ANE64793P0EP	Membrane switch	1	For NE-973EPG
		ANE64793P0SP	Membrane switch	1	For NE-973SPG
		ANE64793P0UP	Membrane switch	1	For NE-973UPG
E10		ANE8194Q40AQ	Cook lever spring	1	
E11		ANE8249Z70BP	Metal shield	1	
E12		ANE8256Z70BP	Door opening lever	1	
E13		ANE8257Z70BP	Bracket	1	
E14	⚠	AEAWAJR39069	Power relay	1	(JR1A)
E15		ANE8284R70BP	Cushion rubber	1	

PACKING AND ACCESSORIES

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
P1		ANE000BR70UP	Cook book	1	For UPG
P2		ANE0003R70EP	Instruction book	1	For EPG, UPG
		ANE0003R70SP	Instruction book	1	For SPG
P3		ANE0013R70UP	Warranty card	1	For UPG
P4		ANE0102R70GP	Outer case	1	For NE-972
		ANE01023P0GP	Outer case	1	For NE-973
P5		ANE0104Z70BP	Upper filler	1	
P6		ANE0105Z70BP	Lower filler	1	
P7		ANE0106910AP	Vinyl cover	1	
P8		ANE0107580AP	Door sheet	1	
P9		ANE0108Z70BP	Tray packing	1	
P10		ANE0113Z70BP	Tray styrol	1	
P11		ANE0169Q50GN	Servicenter list	1	For EPG, UPG
P12		ANE0207-860	Styrol sheet	2	
P13		ANE0601Z70BP	Glass ceramic tray	1	
P14		ANE0602Z70BP	Rack	1	
P15		ANE0603Z70BP	Cookie sheet	1	
P16		ANE0641Z70BP	Rack B	1	
P17		ANE0648Z70BP	Spatter shield	1	
P18		ANE0709Z70BP	Cookie sheet C	1	
P19		ANE0604-F20	Handle	1	
P20		ANE0117Z70BP	Tray packing B	1	
P21		ANE0145Z70BP	Door sheet B	1	

WIRING MATERIAL

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
W1		ANE030AR70GP	Lead wire harness	1	
W2		ANE0351Z70BP	Lead wire	1	
W3	⚠	ANE6595Q50GS	Fuse B	1	(1.25A)

STANDARD PARTS

Ref. No.		Part No.	Description	Size (mm)	Q'ty	Usage
S1		XNWANE5ES	Nut	M5	2	Lower hinge
S2		XNWANE5ES2	Nut	M5	2	H.V.Transformer
S3		XNW4ES	Nut	M4	2	Cover A
S4		XSB4+10FNSE	Screw	4X10	2	Grill heater
					2	Cover A
S5		XTC4+10BC	Screw	4X10	4	Outer panel
					1	Lamp cover
S6		XTEANE3+6B	Screw	3X6	2	Thermal cutout (For Magnetron)
S7		XTEANE5+10B	Screw	5X10	4	Magnetron
S8		XYEANE5+C18T	Screw	5X18	2	H.V.Transformer
S9		XTNANE4+8B	Screw	4X8	3	Door handle
S10		XTWANE35+14B	Screw	3.5X14	2	Oven temp sensor
S11		XTWANE4+12B	Screw	4X12	2	Reinforce bracket
					2	L.V.Transformer
					2	Escutcheon base
					2	Reinforce bracket
					2	Reinforce bracket
					1	Fan motor bracket B
					1	Capacitor bracket
					1	Inrush resistor
					1	Back panel
S12		XTWANE4+10BN	Screw	4X10	10	Back heater panel
S13		XYCANE4+E12N	Screw	4X12	5	Heater panel
					1	Exhaust guide
					1	Insulation panel A
S14		XTWANE4+12B3	Screw	4X12	1	Base
S15		XYCANE4+E75N	Screw	4X7.5	1	Thermal cutout (For oven)
					2	Oven lamp cover
S16		XTWANE4+8BN	Screw	4X8	1	Exhaust guide
					4	Back heater panel
S17		XTW4+12T	Screw	4X12	2	Door hook A
					2	Door hook B
S18		XTXANE4+25B	Screw	4X25	1	Heater panel
S19		XUBANE66FZ	CS ring		2	Convection heater
					2	Grill heater
S20		XWG4BV	Washer	M4	2	Heater support B
					1	Circulation fan
S21	⚠	XWNANE53GV	Washer		1	Power supply cord earth
S22		XTBANE4+12FK	Screw	4X12	4	Door C (For NE-972)
		XTBANE4+12FC	Screw	4X12	4	Door C (For NE-973)
S23		XNG4EVSL	Nut	M4	1	Circulation fan
S24		XUEANE32KP	U ring		1	Fan
S25		XYN4+C20VS	Screw	4X20	2	Convection motor
S26		XTWANE4+8S	Screw	4X8	2	Fan motor
S27		XTW4+12Q	Screw	4X12	2	Bracket
					2	D.P.Circuit
S28		XYCANE4+E12C	Screw	4X12	4	Outer panel
					4	Base
					1	Cord stopper
					1	Fan motor bracket B
					2	Back panel cover A
S29		XYCANE4+C10	Screw	4X10	2	Noise filter
S30		XYD4+BC12XRK	Screw	4X12	2	Back heater panel
					4	Upper panel B
S31		XYD4+EE12F	Screw	4X12	1	Power supply cord earth
					1	Washer
					1	Noise filter earth
S32		XYEANE5+E12S	Screw	5X12	3	Upper hinge
S33		XYEANE5+C16T	Screw	5X16	2	Lower hinge
S34		XYF4ZAF6	Screw	4X6	1	Air guide A
					1	Reinforce bracket B
S35		XST4+8V	Screw	4X8	2	Power supply cord earth
S36		XYT35+C8VS	Screw	3.5X8	2	Convection heater
					2	Grill heater
S37		XTW4+10Q	Screw	4X10	1	Door opening button
S38		XTY4+E10FN	Screw	4X10	1	Grill heater
S39		XWA4BV	Washer	M4	1	Circulation fan
S40		XYCANE4+EC10	Screw	4X10	2	Turntable motor
S41		XYC4+F16XN	Screw	4X16	2	Heater support A

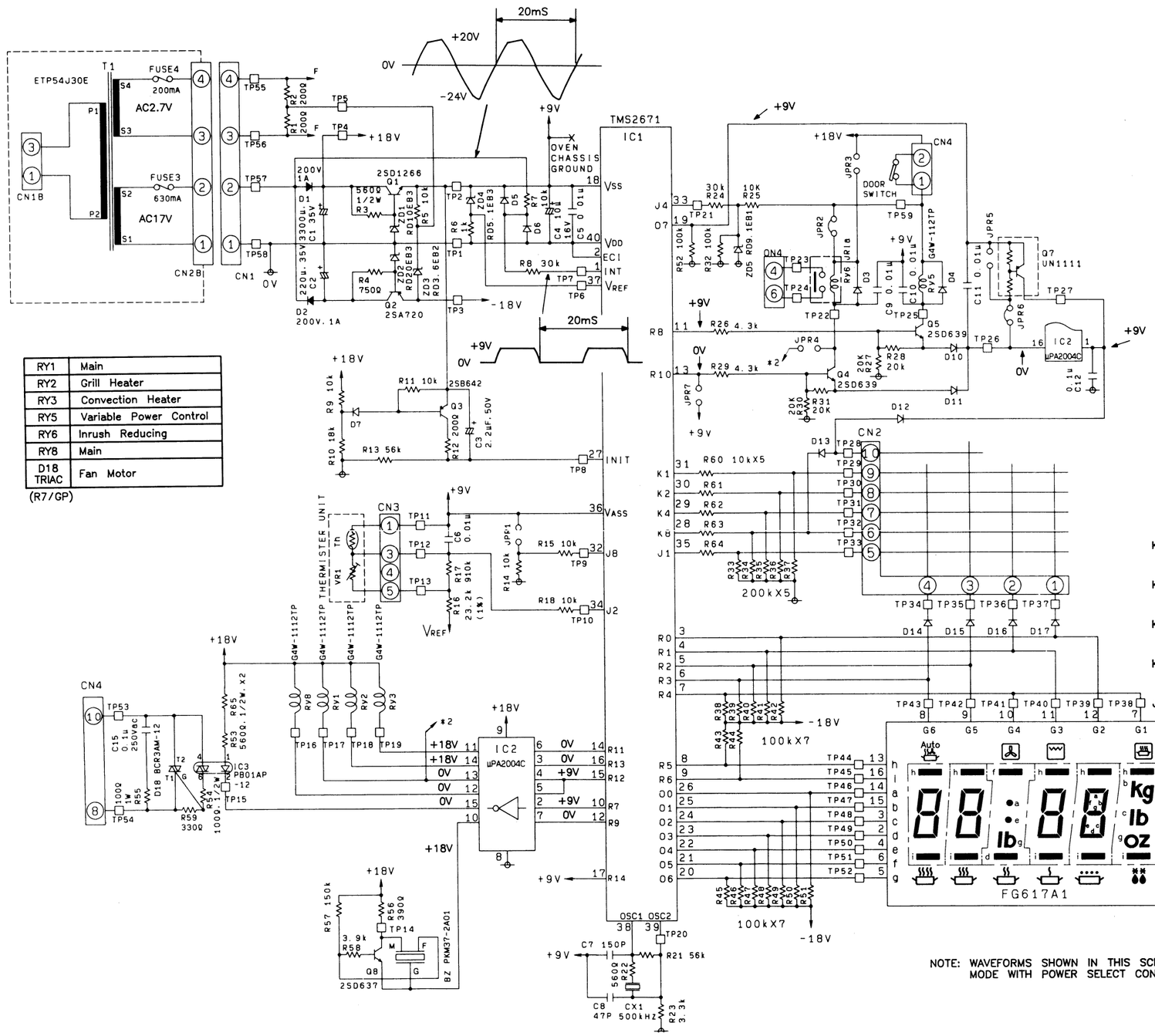
Ref.No.80 L.V.Transformer assy

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
CN1B		AEEMW-P1403	Connector	1	
CN2B		ANE0352R70BP	Lead wire	1	
T1	⚠	ANE6249R70GP	L.V.Transformer	1	(ETP54J30E)
		ANE6231H60RN	Fuse holder	4	

Ref.No.81 Noise filter

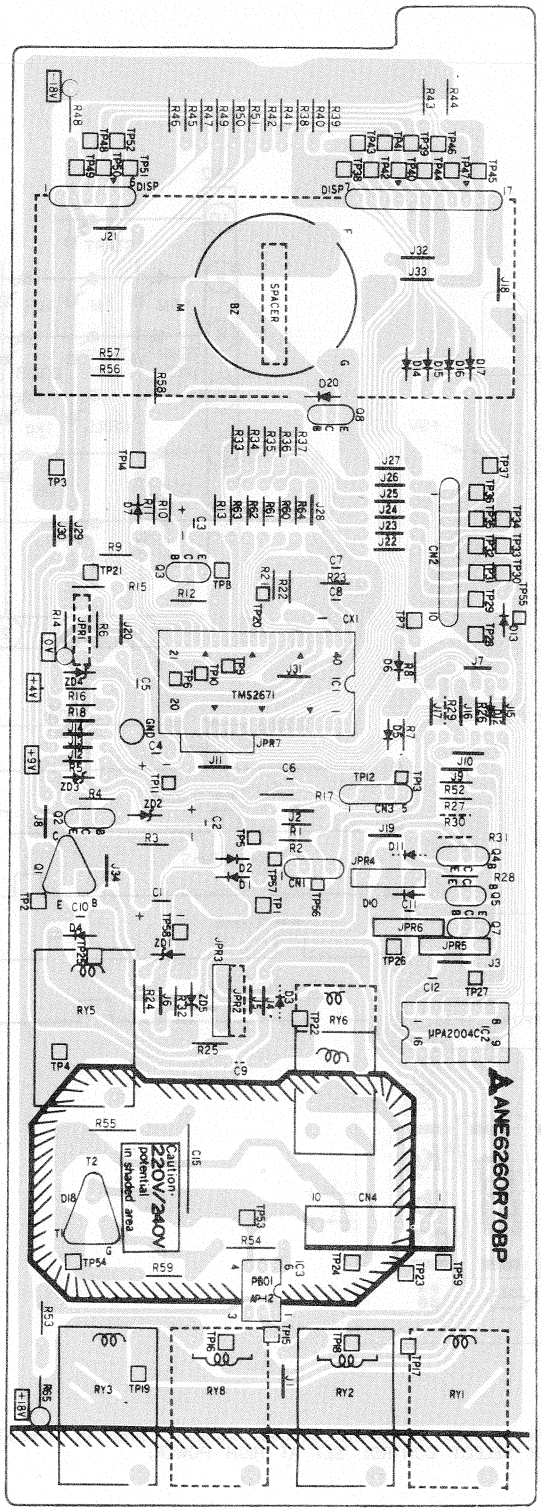
Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
C1	⚠	AECQVE105	Capacitor 1.0μF	1	(±20%, 250V)
C2, 3	⚠	AECQ265MC533	Capacitor 0.033μF	2	For EPG, SPG (±20%, 250V)
	⚠	ECQU2A333MF	Capacitor 0.033μF	2	For UPG (±20%, 250V)
R1		AERBKNY3W3R3	Surge resistor 3.3Ω	1	
S		ANE6489Z70BP	Surge absorber	1	
ZNR		ANE604QQ50GN	Varistor	1	
L1, 2		ANE621AZ70BP	Filter coil	1	
		ANE6231Q50GN	Fuse holder	2	

NE-972, NE-973 DIGITAL PROGRAMMER CIRCUIT



NOTE: WAVEFORMS SHOWN IN THIS SCHEMATIC DIAGRAM INDICATE OVEN IN OPERATING MODE WITH POWER SELECT CONTROL SET AT HIGH POWER.

Digital Programmer Circuit Parts List



MISCELLANEOUS

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
DISP	ANE6456X80BP	Fluorescent Tube	1	
SPACER	ANE6238X00AP	Spacer Cushion	1	For DISP
CN1	AEEMB04BEHA	4 pin connector	1	
CN2	AEEMWD0810	10 pin connector	1	
CN3	AEEMB05PSHF3	5 pin connector	1	
CN4	AEEMW-P14101	10 pin connector	1	
RY1,2,3,5, 8	AEAWG4W1T18B	Power Relay	5	DC18V
RY6	AEAWAJR39069	Power Relay	1	DC18V
BZ	AEFBPKM37201	Buzzer	1	2kHz
CX1	AEFFCSB500E	Ceramic Resonator	1	500kHz
	ANET00X-E60	D.P.C. Parts Box	1	

CAPACITORS

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
C1	ECEA1VU332E	3300μF ±20% 35V	1	
C2	ECEA1VU221E	220μF ±20% 35V	1	
C3	ECEA1HU2R2E	2.2μF ±20% 50V	1	
C4	ECEA1CU100E	10μF ±20% 16V	1	
C5,6,9,10, 11	ECBT1H103ZF	0.01μF −20%+80% 50V	5	
C7	ECBT1H151KB	150pF ±10% 50V	1	
C8	ECBT1H470JSL	47pF ±5% 50V	1	
C12	ECBT1E104ZF	0.1μF −20%+80% 25V	1	
C15	ECQE2A104MW	0.1μF ±20% 250V AC	1	

SEMICONDUCTORS

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
IC1	AEIC26795157	L.S.I.	1	M95157 For EPG, SPG, UPG only
IC2	AEICμPA2004C	I.C.	1	μPA2004C
IC3	AEICPB01AP12	I.C.	1	PB01AP-12
Q1	2SD1266-P,Q	Transistor, Si 2W	1	
Q2	2SA720-Q,R,S	Transistor, Si 400mW	1	
Q3	2SB642-P,Q,R	Transistor, Si 400mW	1	
Q4,5	2SD639-Q,R,S	Transistor, Si 600mW	2	
Q7	UN1111	Transistor, Si 400mW	1	
Q8	2SD637-Q,R	Transistor, Si 400mW	1	
D1,2	AEDNERA1202	Diode, Si	2	
D3,4,5,6,7, 10,11,12, 13,14,15, 16,17,20	AEDN1SS53T	Diode, Si	14	
D18	AESMBCR3AM12	Triac	1	
ZD1	AEDZ10EB3T	Zener Diode, Si	1	RD10EB3
ZD2	AEDZ20EB3T	Zener Diode, Si	1	RD20EB3
ZD3	AEDZ3R6EB2T	Zener Diode, Si	1	RD3.6EB2
ZD4	AEDZ5R1EB3T	Zener Diode, Si	1	RD5.1EB3
ZD5	AEDZ9R1EB1T	Zener Diode, Si	1	RD9.1EB1

RESISTORS

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
R1,2,12	ERD25TJ201T	200Ω ±5% 1/4W	3	
R3,53,65	ERDS1TJ561T	560Ω ±5% 1/2W	3	
R4	ERD25TJ751T	750Ω ±5% 1/4W	1	
R5,7,9,11, 14,15,18, 25,60,61, 62,63,64	ERD25TJ103T	10kΩ ±5% 1/4W	13	
R6	ERD25TJ102T	1.0kΩ ±5% 1/4W	1	
R8,24	ERD25TJ303T	30kΩ ±5% 1/4W	2	
R10	ERD25TJ183T	18kΩ ±5% 1/4W	1	
R13,21	ERD25TJ563T	56kΩ ±5% 1/4W	2	
R16	ERO25TKF2322	23.2kΩ ±1% 1/4W	1	
R17	ERD25TJ914T	910kΩ ±5% 1/4W	1	
R22	ERD25TJ561T	560Ω ±5% 1/4W	1	
R23	ERD25TJ332T	3.3kΩ ±5% 1/4W	1	
R26,29	ERD25TJ432T	4.3kΩ ±5% 1/4W	2	
R27,28,30, 31	ERD25TJ203T	20kΩ ±5% 1/4W	4	
R32,38,39, 40,41,42, 43,44,45, 46,47,48, 49,50,51, 52	ERD25TJ104T	100kΩ ±5% 1/4W	16	
R33,34,35, 36,37	ERD25TJ204T	200kΩ ±5% 1/4W	5	
R54	ERD50TJ101S	100Ω ±5% 1/2W	1	
R55	ERG1SJ101P	100Ω ±5% 1W	1	
R56	ERD25TJ391T	390Ω ±5% 1/4W	1	
R57	ERD25TJ154T	150kΩ ±5% 1/4W	1	
R58	ERD25TJ392T	3.9kΩ ±5% 1/4W	1	
R59	ERD25TJ331T	330Ω ±5% 1/4W	1	